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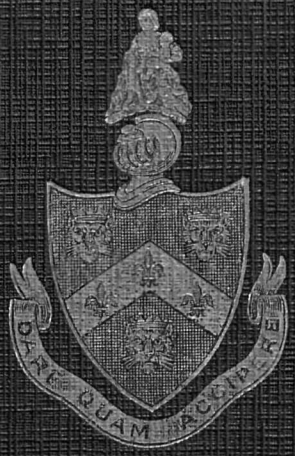

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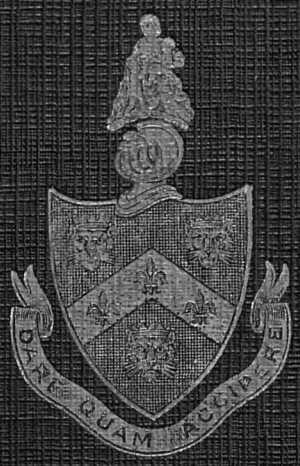

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GUY'S HOSPITAL GAZETTE

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PASSIM

OF all the seasons of the year the present is one which we invariably associate with an optimistic outlook on life. From the moment when we make our new year's resolutions —be they to pass the Conjoint at the first attempt, to give up smoking or to get our Rugger Blue— we are filled with the inspiration to do better this year than we did in the year which has just finished. Realising that for many of our readers 1928 will be a time of ever-changing fare, we take this opportunity of wishing all of them a bright, happy and prosperous new year, and hope that they will be used kindly by the slings and arrows of outrageous fortune.

OUR heartiest congratulations to the following on being appointed Clinical Assistants: Messrs. W. Ellis, C. R. E. Freezer, H. I. Maister, L. G. J. Pitt-Payne, T. G. Scott, E. M. B. West.

WE draw the attention of our readers to a letter sent by the Treasurer of the Hospital to the Editor of *The Times*, and which appeared in that paper on December 22nd. We feel that it gives such lucid expression to the financial needs of the Hospital at the present time, that we are reprinting it verbatim in this number. We sincerely hope that this letter may be the means of justly correcting a misapprehension which is at present wrongly believed—that Guy's is a rich hospital, and also that the time will not be long delayed before we really do find another Thomas Guy.

WE are asked to announce that a few tickets are still available for the performance of *The Mikado*, which is to be presented by the Guy's Hospital Musical Society on Wednesday, Thursday, Friday, Saturday, January 18th, 19th, 20th and 21st, at the Guildhall School of Music Theatre. Tickets can be obtained price 10*s.* 6*d.*, 7*s.* 6*d.*, 5*s.* 9*d.*, 3*s.* 6*d.*, 2*s.* 4*d.* and 1*s.* 10*d.* (not Saturday), from the Hon. Secretaries, the Wills Librarian, or any member, and early application should be made to Guy's Hospital, S.E.1, and should be accompanied by a remittance.

WE are asked to announce that a Conference on Rheumatic Diseases is to be held at Bath on Thursday and Friday, May 10th and 11th, 1928. Sir George Newman, Chief Medical Officer of the Ministry of Health, has kindly consented to act as President of the Conference. There will be three sessions: (1) Social Aspects, presided over by Lord Dawson of Penn; (2) Causation, presided over by Sir Humphrey Rolleston (Regius Professor of Physic, Cambridge); and (3) Treatment, presided over by Sir E. Farquhar Buzzard (Regius Professor of Medicine, Oxford). The local Hon. Medical Secretary is Dr. Vincent Coates, 10, Circus, Bath.

COMMENCING on Monday, January 16th, Sir Arthur Keith will give a course of six Hunterian Lectures before the Royal College of Surgeons of England on factors concerned in the growth of the human body. The first lecture will deal with Hunter's experiments on growth and grafting; the second, on Wednesday, January 18th, with the growth of living tissues under experimental conditions and the bearing of the knowledge thus obtained on abnormal growth of the human body; while in the third and fourth lectures, on Friday, January 20th, and Monday, January 23rd, the growth-controlling functions of the pituitary gland and the influence exerted by the thyroid and parathyroid glands on the growth of the body will

be discussed. On Wednesday, January 25th, there will be a consideration of the influence of the sex glands on the growth of the body, and the last lecture on Friday, January 27th, will contain a review of the evidence for including the suprarenal and pineal glands among the controllers of growth. The Lectures will be delivered at 5 o'clock on each day.

We wish to offer our deepest sympathies to Professor T. B. Johnston on his recent bereavement.

We should like to remind our readers that the annual subscriptions to the Gazette are now due, and should be forwarded to the Manager, the Gazette Office.

Four Cases of Interest.

THE following four cases are all of interest in some way or another, chiefly from the point of view of diagnosis. I am indebted to Mr. Rowlands for permission to publish an account of them.

(1) *Ruptured Aneurysm of Heart*—

R. B., aged 56, labourer. This patient was brought to the surgery at 4.30 p.m. on Thursday, May 26th, 1927. Absolutely no history could be obtained about him ; the ambulance men only knew that he had suddenly collapsed at work.

He was in a state of extreme and utter collapse ; his skin was a deathly white, cold, and was covered with a profuse cold perspiration. Breathing was shallow, rapid and irregular. The pulse at the wrist was just perceptible as a feeble, running thread ; no heart sounds were heard.

His eyes were open and roaming about restlessly and he could just answer questions when aroused. He complained of pain in the lower chest and upper abdomen and of an urgent desire to open his bowels.

He was so much in extremis that only a brief examination could be made. There was nothing obvious in either the chest *or the central nervous system.* The abdomen was tense in the upper quadrants.

There was no obvious localising cause for his collapse, no signs of a cerebral lesion, and as it was thought he might be an upper abdominal catastrophe he was rushed into Naaman under Mr. Rowlands. A hot cradle was put on at once and the bed blocked at the foot.

Half-an-hour after admission he began to develop a right-sided facial weakness and paralysis of the left arm. He was still in a state of utter collapse, cold, feebly muttering and rolling his head about and putting his right hand to his lower right chest, where he was now localising his pain.

The abdomen was now completely atonic and flabby, also strongly suggesting a cerebral lesion.

The right-sided cerebral lesion continued to increase in intensity and his general condition became even more grave. He became quite unconscious, and during the night his pulse was so rapid and feeble it seemed he must die any minute.

By the next morning—Friday—he was, however, still alive, and with a slightly better pulse, but still in the same condition of utter collapse, with cold, grey skin and still covered with a cold sweat ; this in spite of all efforts to warm him up.

He stirred at times and repeatedly complained of pain in the chest, just to the right of the sternum. He had typical " fumer la pipe " respiration, and was flaccid in the left arm, though the left leg was spastic and had exaggerated jerks and an extensor plantar response. The right foot also showed an extensor response.

The heart sounds were just audible, but no abnormality was detected. As he was unable to take any fluids by mouth, he was given glucose and saline per rectum.

All day Friday he was in the same condition, quite cold and clammy under the resuscitation cradle, but on Saturday morning—36 hours after the onset—a remarkable change occurred. He became more conscious and could recognise his wife, and even informed me that he worked in a brewery and was used to daily beer, and thought that a bottle would do him good ! He was also becoming *less cold* and clammy, and for the first time for 36 hours the cradle was left off.

Dr. Campbell came and saw him about 2 p.m. on Saturday and suggested the history of sudden and extreme collapse, persisting in spite of such efforts to warm him up, and associated with pain in chest and upper abdomen, was in favour of a coronary embolism or thrombosis. However, the quite definite left hemiplegia obviously indicated an intracranial lesion, which one must assume was the cause.

As he had not passed water a catheter had been passed on Saturday morning and a few ounces drawn off. He, however, continued to pass no water, and in spite of all the usual efforts to induce secretion none was obtained on catheterisation.

On Sunday morning he became unconscious again, and many moist sounds appeared in the

lungs. The suppression continued and he got rapidly worse and died at about 7 p.m., three days after admission.

Dr. Nicholson performed a post-mortem, and I give briefly his own report of the findings, which he was kind enough to let me have :—

" The body was that of a well-nourished elderly male. An old scar was on prepuce.

" There was blood-stained fluid under meninges at middle of right temporal lobe. Under this was a diffuse area of superficial necrosis and softening, its external border being hæmorrhagic and consisting apparently of clotted meningeal vessels, affecting the grey and white substance.

" Lungs were large, very œdematous, congested, with patches of broncho-pneumonia.

" The *pericardium* was distended with about a pound of recent clotted blood, adapted to the shape of the heart. This blood exudes from the lower end of a semi-circular aneurysm, situated on the left border of the left ventricle, half way between base and apex of heart, and opening into the ventricle by a large cavity. The aneurysm is firmly adherent to the pericardium, and its walls consist chiefly of organised, laminated clot. The bleeding point is situated on the anterior surface ½ cm. below aneurysm and had dissected its way under the subepicardial fat.

" The aortic valves were rigid, fibrous, without deformity. Left ventricle greatly dilated and hypertrophied."

It was learned afterwards that he had not been well for some time, his chief complaint being indigestion, for which he had received treatment.

On the afternoon of his admission he was doing work which involved standing on the top of a ladder and reaching up with his arms. He was observed to stop several times and come down the ladder in order to recover his breath, and on one occasion he had quietly collapsed and was then brought to hospital.

The following two cases are of interest both on account of their rarity and as examples of small gut obstruction due to some other cause than the common ones of strangulation by a band or in a hernia.

(1) *Gall Stone Ileus*—

This case is also remarkable for the number of days that obstruction had lasted, and yet recovery followed in spite of the fact that the patient was anyhow a bad risk.

Mrs. L., aged 71, was sent up by Dr. Shelswell, who suggested obstruction due to an impacted gall stone.

There was nothing relevant in past history until last July, when she had a severe illness—pyelitis and cystitis and symptoms of myocardial degeneration. She also had *biliary colic and jaundice*, and was in bed altogether for three months. In February she was ill for 14 days with upper abdominal pain, sickness and shivering attacks. She went away for a holiday in May, but had to come back because of diarrhœa and vomiting. Micturition was still painful and frequent. She had noticed no blood or slime in the motions, but had had piles earlier. She had alternating 2–3 days constipation and diarrhœa.

On returning to London on *Friday, May 20th*, she sent for her doctor as the pain and sickness had returned and bowels were constipated. Her symptoms, however, continued unrelieved. Enemas had no effect and on Wednesday, May 25th, the vomiting became *fæculent* and it was then realised the pain was intestinal and not biliary in origin. She was sent to hospital and arrived about 12.30 a.m.

Condition on Admission—Good colour in cheeks, eyes bright ; not at all collapsed or distressed. The pulse was good and 100. Tongue thickly coated with nasty brown fur. *Examination of the abdomen revealed nothing.* It was soft, not distended, no lump was palpable, there was no free fluid, no visible peristalsis. Rectal examination was negative. She said she had vomited just before leaving home and described a fæculent vomit. While in the surgery she brought up about 2 drachms of brownish froth, not fæcal in odour. The urine contained albumen and much pus.

Mr. Bromley saw her about 1.15 a.m. and decided to watch further. He agreed the abdomen seemed innocent and she seemed too fit for an obstruction of five days' standing, but was not fit enough to warrant a laparotomy on suspicion.

The pulse began to rise about 4 a.m., and at 6 a.m. she vomited much *fæculent* material. Mr. Bromley came down and operation was carried out at 7.30 a.m.

C. and E. and warm ether were used, and axillary salines were given from the start. The abdomen was opened by a right paramedian incision, and directly a hand was put inside a large gall stone was found impacted in the small gut, apparently about half-way down. This was removed and the bowel sewn up. The bowel above was very distended with gas and fluid, and a small incision was made to drain it off. It was then realised the obstruction was lower in the small gut than was thought at first, and a *valvular jejunostomy* was performed. Patient left the table in a fairly good condition.

After History—The jejunostomy drained well and the gut was washed out three times a day through it until washings were clean. The tube

was taken out in three days and no leakage occurred. She was getting up on a couch at about the end of a week—to minimise hypostasis—when her abdominal wound began to gape and she became incontinent. This resulted in some sores which gave much trouble, but she ultimately got quite well and was discharged towards the end of June quite fit.

The gall stone was barrel-shaped, 1½ inches wide and 1¾ inches long, and was smoothly facetted at each end, where presumably two other stones had been, which completed an accurate mould of the inside of the gall bladder. There are several points worth special emphasis :—

(1) History of gall stone colic a year before led to a conception of another attack.

(2) There were apparently periods of remission of symptoms until the stone moved on again down the gut ; one of these quiet phases was present when she was first seen.

(3) The difficulty of diagnosis, especially from the common cause of obstruction in elderly people —carcinoma coli.

(4) The value of a temporary jejunostomy after such an obstruction ; without this she certainly would not have recovered.

(5) Recovery in spite of five days' obstruction, aged over 70 and with pyelitis and myocardial degeneration.

(2) *Chronic Ileal Intussusception—*

D. B., aged 53 years, a clerk, gave a history of indefinite indigestion for the last four years. During the last three months he had colicy pains across the lower abdomen, with much wind. The pain was usually across the whole abdomen, but sometimes he felt it more acutely on the right, sometimes on the left. The pain, when it came on, was very severe. Vomiting had occurred two two months before and on and off since then on about five occasions. He had been somewhat constipated for four years, but lately he had had turns of diarrhœa after taking medicines. This diarrhœa was 4 to 5 times a day, and *never with mucus or blood.* He was quite definite, however, that on occasions he had passed formed stools. Appetite was poor. He had lost 2 stone in weight.

He came to Medical O.-P.'s on September 21st, and it was thought the likely diagnosis was a carcinoma of the colon.

A fæcal specimen showed altered blood present. Dr. Lindsay-Locke reported on the alimentary X-ray : " Stomach and duodenum normal. At end of 24 hours some barium is in right side of colon, some in dilated small bowel. Suggests obstruction of small bowel, but ? where. No abnormality in large bowel."

On Saturday, October 15th, he came to Out-Patients with an acute obstruction. He had been free from pain on the previous Sunday, but had had return of pain on Monday, which had continued until *Thursday night,* when it became *more severe,* so that it kept him awake at night and was then associated with vomiting.

The pains continued—" coming and going "—all day Friday and during Friday night ; the vomit was now becoming brown and offensive. The bowels had been opened on Thursday morning and a small amount was passed on Saturday morning.

On Examination—He was thin, wasted, and very dehydrated ; eyes were bright and though he was very weak and collapsed he did not look very toxic. The tongue was dry and furred and somewhat red. Pulse was 120, temperature 97°. He was having frequent spasms of typical intestinal colic. In a bowl beside him was about 20 ounces of early fæculent vomit.

The *abdomen* was distended by many coils of gut, which were mostly in the centre part of the abdomen, and, as far as one could see, there was *no large gut.* A typical ladder pattern was presented, and in the left iliac fossa was one large, firm coil which was apparently *not* the pelvic colon. With spasms of colic the coils hardened and showed vigorous peristalsis and increased clearness of the pattern. There was no tumour palpable. There was shifting dullness in the flanks. An inguinal hernia was present on each side, but was easily reducible. On rectal examination there was an indefinite lump to be felt high up in the pelvis ; the examining finger had *normal fæces* on it, no blood or mucus.

It did seem, then, from the picture he presented he was an obstruction of the small gut. One point, very small but reliable in this case, was the fact that he was sure he had at times passed a formed motion, and moreover on rectal examination there were normal fæces in the rectum. This almost certainly excluded a lesion of the colon.

At first it was doubtful whether his history went back four years or only three months. He was quite sure, however, that he had only been *worse* in the last three months. Again, it did not seem likely a carcinoma of the colon would have gone on with symptoms for four years without producing obstruction earlier.

The commonest cause of obstruction of the small bowel is, of course, strangulation in a hernia, but this was excluded here—at any rate an external hernia. Strangulation by a band did not seem likely, having regard to the history. One was therefore forced to the conclusion, in spite of the

rarity, that his dyspepsia of four years' standing, was due to a lesion of the small gut, which had now culminated in acute obstruction.

On admission he was given an enema with no result. Rectal salines were given and he was made warm. The pulse soon dropped to 90 and he became fitter. More fæcal matter was vomited and peristalsis was still active. Mr. Ogilvie came down and operated. A right paramedian incision was made and a coil of dilated and hypertrophied small gut presented. The cæcum was found empty and collapsed, and then coils of empty small gut were found which, on being traced up, led to an intussusception of the lower ileum about 9 inches long.

This was easily reduced, and the cause was found to be a huge polyp as big as a large hen's egg, which sprang from just beside the mesenteric attachment and was over-distending the lumen of the bowel. The gut was viable, but as removal of the polyp alone would have left a narrowed bowel, and as there was doubt as to its nature, a few inches of ileum were resected and an end-to-end anastomosis made.

The patient was very fit after the operation and made an excellent and rapid recovery. His progress was a striking contrast to the poor condition one sees in similar degrees of obstruction from malignant disease. He was in such a miserable condition before operation that one feels sure he would have died had the cause been a carcinoma of the colon. It seems that in innocent cases there is still a great deal of reserve which is quickly lost in malignant disease.

(4) *Acute Appendicitis with a Rigor*—

This last case is worthy of recording owing to the rarity and to the difficulty it gave in diagnosis.

W. M., 28 years, a packer, was admitted on August 20th. Nine months previously he had been in bed for 14 days with an attack of abdominal pain, diagnosed as gastritis. On the morning before admission there was a gradual onset of pain in the right iliac fossa, with loss of appetite and sickness. The bowels were opened on the first day, but not since then. He was kept awake the previous night by the pain. He was seen about 4 p.m. and was tender in the right iliac fossa, and there was a little muscle guarding. Rectal examination revealed fæces only. The chest was normal. The urine was clear and contained some albumen; Guaiac test negative. Temperature was 98°, pulse 82. Tongue was moist but furred.

He was sent in as a subacute appendicitis—probably retro-cæcal—and on admission his temperature was still 98° and pulse 80. Instructions were given that he was to be left for an hour—with pulse chart, of course—and the temperature taken again, for he looked more ill than his signs showed him to be and, moreover, his skin felt decidedly warm. An En. Sap. was given with a small result.

At 5.30 p.m., just as he was to have his temperature taken, he sprang a severe rigor and the temperature rose to 102.4° and, later, to 104°; the pulse rose to 120. He was grey and obviously very ill. There was still tenderness in the right iliac fossa, but very little guarding.

He now had four motions in quick succession, the first a large normal, the next with mucus, and the last two quite fluid and chiefly mucus. The chest was carefully re-examined and nothing abnormal was detected. A second specimen of urine was obtained with difficulty and was quite clear, had a fair trace of albumen, but under the microscope, after centrifuging, no cells were seen.

He was now looking very ill indeed, his pulse was keeping at 120, but the local signs in the abdomen were still very slight. A provisional diagnosis of a retro-cæcal appendix adherent to the anterior surface of the right kidney was made.

Mr. Doherty operated. A right paramedian incision was made; there was no free fluid in the abdomen, but the appendix was found acutely inflamed and distended with foul, thick, hæmorrhagic pus, and lying behind the cæcum, definitely stuck down to the anterior surface of the kidney.

He made a good recovery, although he was rather ill for the first two days. The albumen persisted for two days and then disappeared from the urine, which was quite normal when he was discharged.

R. C. B.

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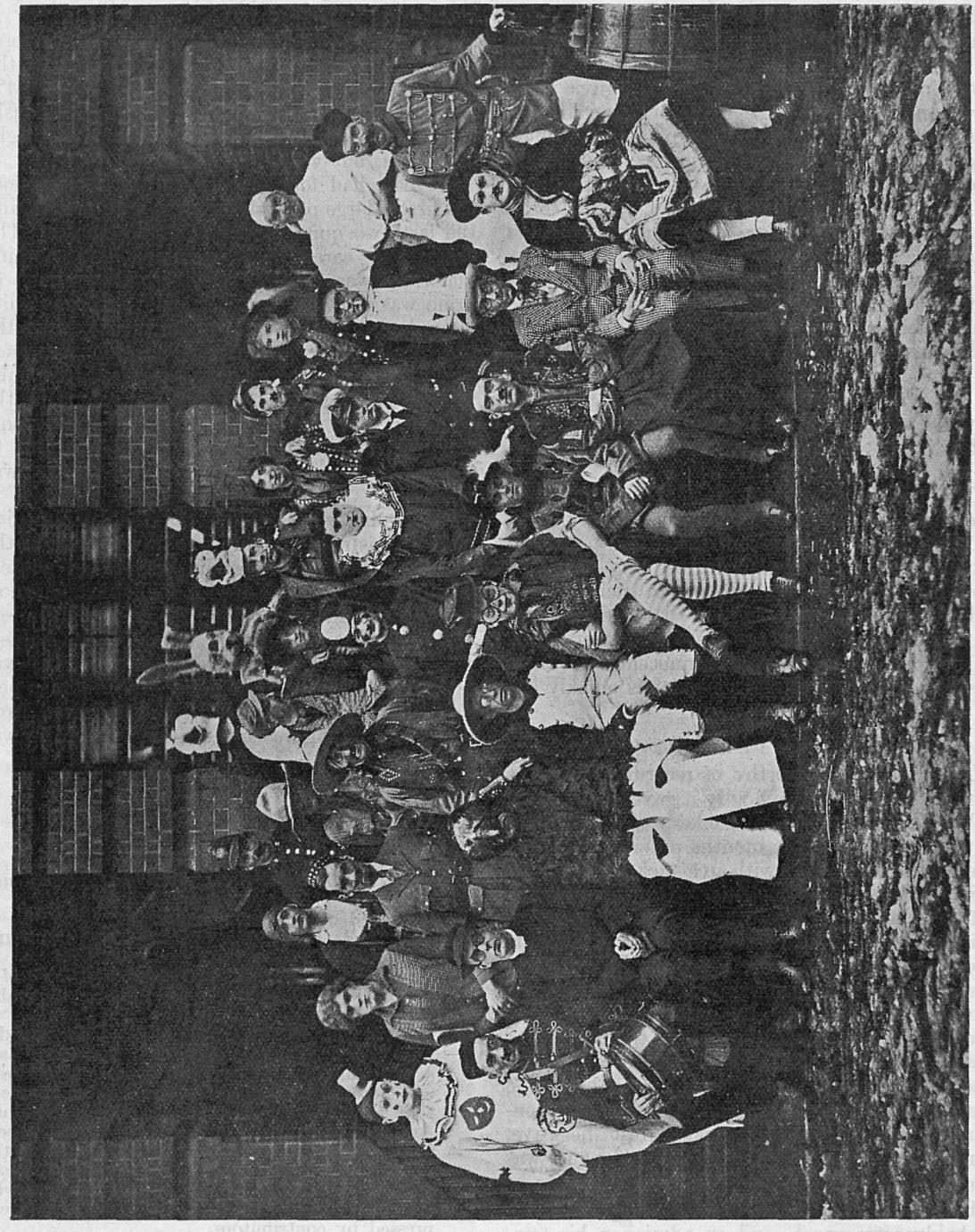

THE "NIGGERS," 1927.

The Niggers' Xmas, 1927.

HAVING been asked to write an account of the Niggers this year, I went to consult my spirit and supernatural adviser about the matter. I said, "Look here, I've been asked to write an account of the Niggers, and to do this it is essential that I should be able to see them all the time. And this is very difficult, as such a big crowd follows them and they go on for so long that any ordinary mortal cannot keep up with them unless he be infused with good spirits."

The sage scratched his head and thought. Then he hit on a bright idea. "You shall be disguised as a spirit yourself," he said.

So there I was, on Monday morning, perched precariously on the hat of the photographer as he photographed as motley a crowd of queer individuals as ever I saw. Outlined against the snow-covered Park they were strangely reminiscent of the sun setting over the Alps. Individually, they were even more picturesque, but I will say more of them anon. When the photographer had been endured awhile, the whole mob surged into Ruth, led by a big drum attached to the anterior aspect of a distinguished looking gentleman dressed as a Czecho-Slovakian' bus conductor, whom I saw later disguised as Mr. Steward's H.S. He was immediately followed by a variety of drum known as "side" or "kettle." This drum was slung from the shoulders of a General of the Corps of Messenger Boys in dress uniform. (It is remarkable how handsome our House-Surgeons look in top boots!) They settled into their seats amid the plaudits of the crowd, with Massa Johnson seated in the middle. Massa Johnson, known locally as "Birtie," though distinctly a scarecrow in appearance, lived up to the very best traditions of past Massa Johnson's throughout the day. Never have I seen a Massa Johnson more Massa Johnsonish.

On his right was seated the deputy Massa Johnson, who, in his spare time, so he told us later, gets Mr. Fagge's patients well after operation. In spite of the great weight on his mind in the shape of the most bounteous of hats, he performed his duties most nobly. But we dally. We must leave the pictorial for the vocal.

After a very attractive young person—with the manners of a real lady and the voice of the Ophthalmic H.S.—had implored his maternal relation to cast her eyes towards "Charles," who had apparently been becoming violently sentimental towards her, a handsome young Turk, who answered to the name of "Pye," and who undoubtedly possesses many flourishing harems in his native land, expressed a desire to know what particular tune the bands were all playing. Apparently he was soon satisfied, for he gave way amicably to a burly policeman, in appearance singularly like Dr. Hurst's H.P., who began imploring a certain ginger-haired young lady to be his wife, vowing that he had no use for Marie Stopes.

After Ruth the crowd went to Queen, where Massa Johnson, who has added another note to his scale since last year, sang *Aint She Sweet?* with touching simplicity. He was followed by a blackbird, who, while obviously in favour of hauling on a halyard or even delivering a baby, yet manfully bid farewell to his fellow blackbirds. Next came "George," who, dressed for the part, vociferously urged us all to support all comers against Burgundy. Apparently he had a grudge against Burgundy—or had previously suffered under its influence.

In Mary, whither the way was wended next, a well-known cleric who, we believe, dabbles in medicine under Dr. Poulton's guidance, complained that everybody loved his girl. We were sorry, but unable to do anything about it. The arm of the law then raised itself again to adjust its moustache, and, in the intervals of doing this, it exhorted us to sing the *Lard Song*. We did. Then sprang into the arena a cow-boy, known to his Wild West fellows as "Traff" or "Cliff," who has lately given up the study of broncho-busting for that of bronchial breathing. He gave us a spirited rendering of *Side by Side* with terpischorean accompaniment.

After Mary we went to Clinical, where three tough-looking costers with their women folk, all obviously at home in Clinical, revived memories of Albert Chevalier in *Wot Cher* or *Knocked 'Em in the Old Kent Road*. Then our friend from the church gave vent to more complaints about his girl. He was deeply injured about it all. However, the toppling reputation of the church was hastily restored from a most unexpected quarter when our young Turk shouted *Hallelujah* at the top of his voice. I trust his act of grace will be taken into account at the final judgment and be placed in the scales against his unfortunate haremistic tendencies.

In Bright there were drinks—masses of drinks. But I go too fast. I apologise. Before the drinks we listened to Pip, Squeak, Wilfred and Aunty—owing to the very unfortunate absence of Aunty the kind gentleman from Turkey deputised for her—wishing everyone *How Do You Do*, just as

they do in the Front Surgery in different costumes. Then a Chinese Mandarin—reputed to live near Bright—announced his intention of going back to *That Street of Chinese Lanterns*. And he knew about the drinks too. The Costers then danced and sang again. They did not appear interested in the drinks.

After a well-earned interval in which sustenance was taken, the band formed up punctually at 1.40 outside Stephen. When inside our Traff-Cliff Cow-Puncher confessed quietly and modestly that he was in love again. Well, I suppose that in time there will be a number of little Traff-Cliff cow-puncher babies around.

Next, the young lady of doubtful reputation and ophthalmic voice told us of her preference for Bulgarians until she was interrupted by the cleric, who continued his jealous complaints about his girl.

In Addison Turkey continued to take an interest in band tunes and the Police Force in red-haired young ladies, while our Wild West friend continued to dance *Side by Side*.

The whole troupe then deserted the Medical Wards and splashed through the snow to Dorcas, where a well-known Sheikh, who possesses a keen insight into not only ears and noses but also throats, warned us that his Riff Raff were abroad —presumably tonsil snatching. His resonant rendering was followed by an insinuation from a clownish person, who has been seen about with Mr. Layton, that, although *She Don't Wonna*, he did. We did not blame him. Finally, a certain Bullfighter, who is reputed to pass a pretty catheter, showed that even a bullfighter has his hobbies by begging someone unspecified to take her finger out of her mouth.

In Martha Mr. Fagge's H.S. complained, from beneath the shadow of his hat, that he was entirely without a sweetie. The Niggers' sympathised loudly in chorus, and then a Naval gentleman, well-known on land as " Geoffrey," said that he, on the other hand, had a *Girl Friend*, and he did not care who knew it. But, then, everyone knows the sort of polygamic reputation a sailor has. The top-booted kettle—or is it side ?—drum owner then laid aside his kettle—or is it side ?—drum, and proceeded to tell all and sundry, but particularly Sister Martha to sing—sing anything.

I thought this was unkind of him considering that everyone had been singing lustily for some hours, and would suggest that he tries his arguments on Mr. Turner next time he takes him round.

From Martha the party made a sortie to Out-Patients, where a Homeric struggle took place. Though sadly outnumbered, the Niggers shouted down 700 school children in great style. Flushed with success and the joy of song, and full of good spirits, the Niggers would have out-shouted 7,000 school children at that moment. A little weary, some even staggering a trifle from sheer exhaustion, the Niggers went from Out-Patients to Evelyn, the lifts groaning under the weight of them. In Evelyn the Chinese Mandarin besought his *Little Brown Baby*—I'm sorry about that—to go to sleep. Several of the Niggers at once took his advice. They were partially roused by the powerful phonation of a nasty-looking Mexican Bandit, whom Mr. Ogilvie is known to hire to carry out his fell designs. However, on this occasion he belied his appearance by complaining mildly of that *Awkward Stage*—the dangerous middle age. He was followed by the Pets, who greeted Sister Evelyn most cordially. I hope Sister Surgery was not jealous.

Going across the road to Pat. and Sam. the ubiquitous Navy proceeded to deputise for Mr. J. K. Moore and sang *One Summer Night* with such pathos and feeling as only a really high-minded man of experience can employ. He was followed by " Sammy," a well-known tin soldier, who described how he and an Italian friend of his pushed trucks about in some strange corner of the globe. Then a dishevelled young man in evening dress, and obviously of vicious habits, demonstrated by word and deed that he had lost his way home. It is reported that, when not helping Mr. Bromley to operate, his favourite hobby is singing.

After a short interval, during which a very excellent tea provided by Sister Theatres and her staff was consumed, the mob moved on to Christopher. Here the Bullfighter besought a certain lady named " Mandy Lee " to " wear a shiny nose," the clown described a particular *Grand and Glorious Feeling*—obviously a man of experience, this clown—and the Sheikh extolled the attractions of a *Blue Room*.

In Job, after the *Birth of the Blues* in all stages of labour had been described minutely by the owner of the side—or is it kettle ?—drum, Mr. J. K. Moore, clad in beautiful pyjamas, sang to us of *One Summer Night* from his bed of sickness — a truly stirring rendering. After this we were rather pathetically perhaps, warned of the *Dangerous Age* again. The Mexican's do so harp on the dismal side of life.

In Naaman " Sam " told us how, in his beautiful check suiting (natty) and straw hat, he escaped Sister Naaman's clutches at week-ends by going away to his *Mountain Greenery Home*. I fear Sam i s leading a double life. When our dissipated young

man had ceased asking his way home for the second time, Massa Johnson described to us his life on the farm, and particularly the attractions of the milkmaid. Oh, Birtie !

In Luke the Czech 'bus conductor deserted his drum, which he had beaten magnificently and with aplomb, and told us that he was quite sure his baby loved him. We were glad. A friend of Mr. Hughes,' who started at the feet as a road-sweeper, became an Air Force pilot about the middle and ended on top as a telegraph boy, then complained to us about the *Crazy Words, Crazy Tunes* of a neighbour of his. The Tin Soldier was next roused from slumber and reflected loudly on his probable appearance while asleep. We knew, but did not tell him.

In Lazarus Mr. Fagge's heavy-hatted H.S. told us about the Paris fashions, the Navy persisted that it still had a *Girl Friend*, and Massa Johnson repeated his experiences on the farm.

In Lydia the big drum was again put aside and its owner told us how he had a Stokes-Adams attack when he looked at a certain lady. Then our Air-Force-Telegraph-Boy repeated his complaints about his neighbour, and Sam inquired what particular point there was in talking. (Or, writing, for that matter. Well, sir, I've nearly finished.)

From Lydia the swarm buzzed gently on to Corney. Here we were again exhorted to *Sing Something*, and then the Blackbird gave us some idea of what life would be *If only I Had You*. It sounded attractive. We were then treated to further accounts of the Paris fashions before passing on to Astley. There the big drum gave a further report on his Stokes-Adams attacks and George maintained that he still had the girl. (The R.O.'s were always a tenacious race.) When Sam had regaled us with stories of his week-end villa, *Mountain Greenery*, Massa Johnson finished the programme by rendering *Aint She Sweet* once again.

This dull and long-winded account of a day that was never dull and was always too short has so far omitted mention of three important items. First, the now famous Niggers' entrance and exit choruses, played and shouted on entering and leaving each Ward. Secondly, the riddles, three in each Ward according to tradition, which call for remarkably clear enunciation by the questioner, great presence of mind by Massa Johnson, and considerable generosity by the audience. All three were accorded to them. Last, but a very long way from least, there was Mr. Oliver Ive, who accompanied throughout with exemplary skill and patience. A more difficult task for a pianist than to accompany some of the Niggers it would be difficult to conceive.

Altogether a very great day concluded, I understand, by the Residents' Dinner, but for some reason or other I am unable to get a very clear account of the dinner from anyone. However, I believe it was a good dinner.

An Out-Patient Christmas.

The Landon Tea.

BY reason of the slush in the Park above we were led to approach the Out-Patient Hall on the Monday afternoon, through the subway. A distant roar greeted us at the entrance and became progressively more deafening as we went on, just as if a tube train were about to round the bend at any moment. Fearing for our subterranean safety we emerged at last upon a scene which baffles all description. Tier upon tier of Borough kiddies, eager eyed, drank in the gay music of a band which their united noise just failed to drown. Some of the more venturesome of their number were willingly led to the platform, where they Charlestoned, sang, or drummed by way of return for their various presents. We shall never forget one chubby youngster, the glow of the footlights on his rosy face, as he sat enjoying the one desire of his young life, namely, to drum to a real band with two real large-size drums and all the other gadgets handy

Eventually the Niggers arrived in full war paint and were greeted, if possible, with a very special yell. This encouraged them to reply in kind, so that now the din was more ear-splitting than ever. With considerable difficulty they attained the platform, but once there they let off their snappy choruses like so many fireworks, each explosion gaining vigorous echoes of approval. If the platform had been difficult to reach, it was considerably harder to leave, so insistent was the demand of their audience, but eventually they did manage to get away, so that a dual Father Christmas, in the persons of Messrs. C. L. Stevens and F. R. Kenshole, could get to work. Very effective work it was too, for each of the 700 children at the tea went away happily with a wonderful present and voting their afternoon the best ever, just as it must have been the noisiest.

Later in the day a tired Sister Out-Patients, regarding with a practical eye the unbelievable litter left in the now deserted Hall by her huge

party, asked me to say how grateful she was to all those who had helped, or who had sent toys and dolls. We can assure you from our personal experience that neither help nor presents were given in vain.

The Out-Patient Dance

THE informal Dance held in the Out-Patient Hall on Tuesday evening, December 28th, proved to be one of the most popular of all the Christmas events. Within 24 hours Sister had managed to deal with the appalling wreckage left by Monday's riotous tea and had converted her department into a most attractive ballroom. It only remained for Mr. Greenway to bring along his excellent band, fresh from their labours in Addison and Queen, and a crowd of dancers were quickly on the move to all the latest tunes. Things soon warmed up to a gay liveliness, and when the Superintendent and Mrs. Eason looked in later on they found a happy throng that could scarcely give the band a rest, so insistent were their demands. The amazing subtlety of banjo and drum drew even our own most awkward feet into some semblance of a Charleston, while the number of the waltz encores was in itself a tribute to the excellence of piano and sax duet. We were more than sorry when four members of this clever five had to hurry away to fulfil their professional engagements.

However, Mr. Greenway, with the assistance of Messrs. Leader and Neely, carried on to provide us with excellent musical fare for yet another hour. They even persuaded a large crowd on two occasions to attempt the Yale—and not without success. The Nurses, despite the hindrance of a uniform, were more than equal to our most intricate demands, and if this be sample of their skill, bid fair to dance us off our feet next Friday, for then, alas, we shall be in uniform, while they are not.

The ringing cheers which closed the dance were full tribute of our gratitude to Sister and the band for such an excellent evening's enjoyment.

Christmas in the Wards.

Mary Ward.

ON Tuesday, December 27th, the Christmas Concert was held in Mary Ward at 3.30 p.m. Mr. Ive opened the Concert with a pianoforte solo. This was followed by a duet given by Messrs. Lomax and Lomax. Mr. Rake, in his naval uniform, then sang to us about his *Girl Friend*, and, using his great powers of persuasion, succeeded in making the audience sing about theirs. Mr. Clarke then sang to us and told us all about his home in the mountains. This was followed by two delightful songs by Mrs. Wooster.

We then had an interval for tea, during which time the Queen's Hotel Dance Band and Cabaret arrived.

After tea the band opened with two modern dances. Capt. and Mrs. Lawson Johnston—Moya Mannering, who played the title role in *Peg O' My Heart* for two years at the Globe Theatre—then entertained us, firstly, with an imitation of A. W. Baskcombe and Peggy O'Neill in *Mercenary Mary*, and, later, with Irish and Scotch songs.

The Queen's Hotel Cabaret then entertained us with dances and songs for over half-an-hour. These were greatly appreciated. The band then continued to play popular dance music. Later Mr. Norman Long arrived from the Coliseum and, in his own inimitable way, produced laughs from the longest faces.

The band then concluded the Concert by playing *The Froth Blowers' Anthem*, followed by *God Save the King*.

A vote of thanks and cheers were then given for the performers, followed by cheers for Sister, who had worked so hard to make the Concert a success.

Stephen Ward.

THE Stephen Ward Concert was held at 3 p.m. on Thursday, December 29th. It was opened by Mr. Greenway's band, which, after a false start in the Eye Ward, from which they were rescued at 3.10 p.m., entertained us for half-an-hour with a series of popular dance tunes. Tea was then served, after which the Queen's Hotel Dance Band re-started the programme. The Queen's Hotel Cabaret then entertained us with songs and dances. These were received with loud applause. Mr. Rake then arrived and sang to us. He was followed by Mr. Clifton who, in his cowboy costume, gave us a very spirited rendering of *Side by Side*, followed by an equally spirited dance. Sheer exhaustion alone prevented his acceding to the loud and prolonged calls for an encore. Miss Ensor then entertained us with two delightful violin solos.

The band then played to us and made us long to break the rules and dance in the Ward, until the arrival of Mr. Norman Long. He told us in-

numerable funny stories, interspersed with comic songs.

The Concert was concluded with a rendering of a revised version of *Frankie and Johnnie* by the "Lomax Brothers"—their performance was so finished that we feel they deserve this professional title, even though they are amateurs.

God Save the King was then sung.

We would like to take this opportunity of thanking all the performers for their great kindness in coming and helping to give us such a splendid afternoon entertainment. At the same time, we would like to express our sympathy with Sister Stephen, who was prevented by sudden illness from being present at her own concert, and to wish her a speedy recovery. Finally, we must thank Sister Mary for coming to our rescue at the last moment, and all the nurses in the Ward for their untiring efforts to ensure the success of the Concert.

The Eye Ward.

THE Eye Ward Concert was held on Thursday, December 29th, and proved to be a great success. It was opened at 3.15 p.m. by Mr. Greenway's band, and from then until 8 o'clock the patients and their friends enjoyed a varied entertainment. Miss Golding played two delightful movements on her violin, accompanied by Miss Eason at the piano. The child members of a dancing troupe from the Clone School of Dancing interested the audience with charming national dances and modern Charleston steps. Everyone was extremely sorry to see them go and wished their entertainment could have been longer.

More playing and singing by Miss Golding and, later, by Messrs. R. and L. Lomax, then tea. This half-hour was greatly appreciated, and Mr. Greenway's band kept the entertainment going. Mr. Norman Long looked in to see how his famous smile would go with the piano, and then the P.M. people from the Queen's Hall Cabaret put up a jolly show until bedtime, when the ward was rapidly cleared and the patients hustled into their various bunks.

Christopher Ward.

THIS year's Concert was held on Wednesday, December 28th, amid most realistic rural surroundings, Christopher having been converted into a large farmyard. Judging by some of the lifelike animals one saw, there should be no shortage of farm produce in Christopher for some time.

Mr. Savile and his friends first played popular melodies to us for an hour, after which the ever-increasing audience were treated to selections from *The Girl Friend*, etc., by Messrs. Clarke, Rake and Clayton-Jones, whose voices seemed to be but little affected by their strenuous efforts on Monday. Mr. Epstein played several violin solos with his accustomed skill, and then Mr. Harry Brander, who said he had just come over from America, told us all about several ladies whom, one thinks, he did not meet over here. He received so many encores that he might still have been singing if he had not had to catch a boat back again!

After tea Mr. S. L. A. Clarke sang two more songs, after which Mr. Clay Thomas's Concert Party entertained us for the rest of the time. Mr. Thomas's baritone was heard to great effect in *It's a Beautiful Day* and *The Sergeant-Major on Parade*. Miss Laura Drake accompanied herself at the piano, but her efforts to introduce community singing did not meet with the success they deserved; perhaps the tea was responsible for this. After Miss Molly Seymour had sung two songs with violin accompaniment, Will and Gwen Vaughan indulged in some most amusing repartee, Mr. Vaughan's acrobatic feats at the piano arousing great enthusiasm. Mr. Fred Curtis then kept us laughing over his misdeeds at the dinner party, though we fear his sense of humour must have been rather painful for some of those present at that function. Mr. Cecil Harrington provided more musical humour, and the Concert ended with cheers for Sister Christopher and the artistes who had given us such an excellent entertainment.

Job Concert.

WE always pride ourselves at Guy's that we give our patients as good a time as we possibly can, and it is nice to have this corroborated by the patients themselves. No one could conceive of a more acceptable present from a grateful patient than that which was given to Job Ward on Tuesday, December 27th, by Mr. Simkins, who has been thrice warded there, for he brought a troupe of no less than 16 performers, all of the highest quality and known as the Clapham Nondescripts, who entertained a large audience of patients and their friends for the entire afternoon.

The performance started with a good opening chorus, in which the performers introduced themselves. This was followed by a duet sung by Mr. Conway and Mr. Middleton entitled *Watchman, What of the Night?* The next item was given by Miss Vodden, who, after telling us just how much she loved *Rose Marie*, proceeded to sing a delightful song in which she pointed out how lucky for her it was that under various somewhat risqué circumstances she was able to have her otherwise self covered by *The Little Shirt My Mother Made for Me*. Indeed, Miss Vodden made herself so alluring

that we were almost tempted to wish that her mother had never made the shirt at all!

Next followed a good Cockney song entitled *You 'Eard*, which was sung by Miss Blake, after which Mr. Macqurie sang *Two Eyes of Grey*. Mr. Perrins, dressed to resemble Sir Harry Lauder, even to the stick, sang the old favourite *Stop Your Tickling, Jock*. Miss Blake and Miss Wood carried on with two duets, *Side By Side* and *All Alone With You*, both of which were delightfully sung and provided good choruses.

The audience were now asked to perform Community singing in the shape of the *Froth Blowers' Anthem*, and, upon a signal, to sustain a loud note with open mouths while a flashlight photograph was taken. The noise of the sustained note was terrifying in its discords, but was happily cut short, to end in a shriek as the magnesium went off.

Other items included a dyslogy on the profession of watching a hole in the street on Christmas Day by Mr. Middleton. Miss Wood sang *Coming Thro' the Rye*, and Mrs. Simkins held us spellbound with a recitation entitled *Kissing Cup's Race*. Mr. Conway explained how hard it was to keep an eyeglass in one's eye, and sang the old song of the old egg. Mr. Galpin sang of the duties of a farmer's boy and, later, Miss Vodden again thrilled us with *Italiana* and *Fill It Up*. It was a most enjoyable Concert and we are most grateful to Mr. Simkins and his troupe for a very excellent afternoon's entertainment.

Baby Ward.

IT was all due to the tiny parcel of anatomy in Cot No. 1. There was to have been a Baby Ward Concert that afternoon and Father Christmas was to have come, and there was to have been a jolly musical clown and no end of fun, but the young offender, who at 12 o'clock was distinctly too red, at 2 o'clock was pronounced as *scarlet*. Thus it happened that the clown never came and the children Sister had invited had to be directed to jollifications elsewhere.

There! there! and you never saw a Ward look so pretty or half so noble a spangled Christmas Tree, and there was such a jolly wood for "Babies in the Wood" and a perfectly splendid model of Red Riding Hood's adventure. It is one great national characteristic that we can make the best of a bad job, and a jolly time we had in spite of everything. Father Christmas—Dr. Close—attired in the well-known red hospital dressing gown and shod with plaster boots came tripping across the snow in a most realistic way. He brought, in an immense sack, presents for every one. The weeny whimperer's expression of fear at Santa's approach was nothing to the wrathful protest issuing from the same quarter on his retreat. A sweet little girl in pale green silk, who called hi m daddy, followed him about and helped him to diagnose the cot numbers—it always is a difficulty for Father Christmas to get his line of vision to penetrate the apertures of the mask.

After a tremendous tea those of us who were sufficiently dignified joined hands and went dancing round and round until such times as the music stopped, when all bumped down—yes, and we have some distinct traumatic bursitis of the ischial variety resulting—and then another game in which one blindfolded participant tried to diagnose the owner of the knees which they were sitting on—nominally through the sole sign of ausculation, but, of course, palpation was a great aid. And there were other games too, just as thrilling, and, so you see, although things must have been a great disappointment for Sister and the nurses, we had a splendid time.

Dorcas Ward.

NON-UNION labour, working a little overtime, easily ran up the House that Jack Built in a single day. Everything went without a hitch, Sister having, with the efficiency of a Saltmarsh, organised her small room into a works department able to supply anything from a square yard of the greenest grass to bags of malt. Apart from its novelty, it was no jerry-built structure that resulted either, for it lasted nearly a whole week, and successfully withstood the buffetings of much festivity.

On Monday an extra special line in Christmas dinners preceded the Niggers' most successful call. "'Aint he a lad?" we heard a patient say as the throat H.S. brought down Jack's roof with his explosive song. Mr. Layton looked on approvingly and stayed for tea. We feel that, in his time, he must have been the one house man with no traumatic laryngitis on Boxing Day.

No afternoon was without its concert, and through the week many excellent shows were thoroughly enjoyed by the patients. On Tuesday afternoon we found Mr. Savile playing light violin music with an excellent piano accompaniment. Wednesday was the special day, and a goodly crowd of patients' friends turned up for tea and entertainment. Tea was handed round in great style by the distinguished doctors attached to the Ward, a performance only equalled by the skill at bun balancing exhibited by the guests.

Mr. Epstein started off the Concert with some well-chosen violin solos, and was followed by the vocal and comedy artistes which Mr. Clay Thomas so kindly brought along. Miss Gwen Vaughan and

Mr. Alec Magill got away with some light comedy numbers, incorporating a good deal of topical back-chat that went down extremely well. Fred Curtis, of the infectious laugh, found our immunity to his peculiar disease extremely low, so he put us all definitely on the danger list by singing a song about his sweethearts, there being a new one for every verse, and a terriffic number of verses. Mr. Cecil Harrington adopted methods of the Jack Smith variety and, among other things, painted a harrowing picture of the year 1975. Harry Brander, "Straight from the Yewnited States, yep, sir, I'll say so," strangely enough sang us a Somerset song, and sang it thundering well, Mr. Clay Thomas himself provided a baritonic treat with *The Yeomen of England* and *The Company Sergeant-Major*, two songs that tax both volume and execution in a singer, but found Mr. Thomas with plenty in hand. We were very sorry when he and his excellent company had to rush off elsewhere. However, Mr. Clarke blew in with some songs from the *Girl Friend*, while Mr. Clayton Jones repeated in cold blood his success of Monday. Mr. Ive at the piano displayed his usual skill, with the "till ready" portions.

Eventually somebody had to play the *King* as a signal it was time to go home, and so that the distinguished doctors could help the nursing staff put the Ward straight for the evening. Incidentally, the doctors were able to indulge in a little tea themselves, since Sister's aforementioned efficiency and foresight had extended also to the catering department.

On Thursday a smaller, but no less appreciative, audience listened eagerly to Mr. Wood and his stories, while Miss Nellie Norway provided them with the most attractive exhibition on a set of hand bells, and Miss Laura Blake sang the most delightful songs at the piano. We were again much indebted to Mr. Clay Thomas for bringing down these well-known artists.

On Friday more non-union labour, more overtime, and Jack's House was quickly gone. Dorcas returned to its everyday dress—sluggish steriliser, tidying trolley and all. We had left only our ward badge, but we shall keep that a long time in memory of a most happy Christmas week.

Cornelius and Lazarus Wards.

WE, among others, had long looked forward to December 29th, the Cornelius and Lazarus Concert and the "Bow-Wow's," and we were certainly not to be disappointed in our expectations.

S. L. A. Clarke having faced the footlights with an excellent song, others followed fast, and we settled down to a very enjoyable hour of violin solos and songs from G. T. Hankey, G. W. Rake, R. F. and P. H. Lomax and others. Interspersed with these we were treated to "demi-character" dancing by pupils of the Chiswick School of Music and Dancing.

The first half of the programme finished, tea followed, and one realised what a large audience there was and marvelled that Cornelius was not yet where Dorcas happily still is, in spite of the ominous cracks in the brick work that we see and hear of lately. After tea we had a song from E. N. Stevens, which was very well sung indeed, and then G. H. Greenway's Band arrived and "dug themselves in." The crowded ward enjoyed their playing of well-known tunes for half-an-hour or more before they were claimed elsewhere.

Now for the Bow-Wow's, but where were they? Scattering fun broadcast in Bright. Mr. E. D. Grasby was sent to employ all his stratagem and entice them away, and, while his little plans were given time to mature, G. W. Rake plunged into the breach to meet with further success with his ever popular songs. The Bow-Wow's, with one or two old friends from the Co-Optimists, were now on, brimming over with jollity and nonsense. Stanley Holloway opened proceedings and was followed by David Burnaby, Betty Chester and Billy Milton. It would be presumptuous to attempt to describe their doings in detail; suffice it to say that a hilarious hour was spent listening to their spontaneous fun, when not being egged on to competitive community singing between the two parts of the ward. In the middle Norman Long arrived and added his quota, to the discomfiture of all Scots present. Everyone who was lucky enough to be at this Concert must have felt very grateful to all these busy artists and Betty Chester for staying so long in the Hospital as they did on this occasion.

Martha Ward.

ON Tuesday, December 27th, some of us started our round of Christmas concerts with that in Martha, whose decorative scheme, in passing, must surely have been among the most fetching in the Hospital. During the course of the afternoon and evening many ladies and gentlemen rendered most pleasing items, a variety of song, music and humour being "put across," to the evident satisfaction of the assembled audience.

It would take too long to thank each performer in turn, and much of interest must remain unwritten, but the "demi-charactère" dancing of children from the Chiswick School of Music and Dancing, who were introduced by Miss Fowle, an

old patient, provided perhaps the most popular fare of the afternoon—if we were not yet to mention G. W. Rake's now famous song from *The Girl Friend*. The concert over we hied away to the Out-Patient's Dance. Returning later we found the ward already restored to normal order by surely Herculean efforts on the part of the nurses. May we congratulate the ward on a very successful Christmas !

Clinical Concert.

ON Thursday, December 29th, we were faced with a difficult problem. Should we go to Stephen or Cornelius, should we once more applaud Punch and his downtrodden spouse in Lydia, or should we—happy thought—go to Miriam and John for tea. We were told there was to be a large tea and a small concert—an ideal arrangement. This momentous decision having been made we set off and, after exhausting flights of stairs, reached Clinical in a very weak state. We found the Ward decorated in red and orange with Dutch tulips, dolls and windmills. Tea, thank goodness, was well in progress, as evidenced by the clatter of cups and voices, above which we could just discern Mr. Greenway's band making very good work of the *Doll Dance*. The band seemed in no way disturbed by the air of business with which everyone tackled tea ; on the contrary they were quite obviously inspired. Their stay, however, was all too short ; an urgent message from Ruth reminded them that Christmas time flies even faster than the other varieties. We had just discovered that by a methodical circular tour one could have apparently unlimited tea, when we were rudely interrupted by strains of *Knocked 'Em in the Old Kent Road*. Realising that this was the end of the peaceful part, and that now we were " for it," we settled down with our sixth—or was it seventh ?—cup of tea and ninth or tenth slice of cake. The Clinical *tout ensemble* having delivered themselves, one detached himself from the main body and accompanied himself in *Drinking*—a regular habit we suspect. His bottom notes, although rather disturbing to the less hardened of us, can only be described as superb. We were rather perturbed by his gait and would like to take the opportunity of commiserating with his posterior columns, who, we are afraid, must be feeling the effects of sclerosis. The Messrs. Lomax, who by now are well known, played some duets and finished with a really good harmonised expurgated version of Franky and Johnny.

Next we were told in no uncertain terms that a certain Mrs. Moore, who apparently lives next door, has too many babies, too many husbands, and takes too much strong drink, an excess strongly deprecated by a well-supported chorus off. Mr. Abrahams, dressed in his female costume, shed light on the women's aspect of alcoholic refreshment in a supplication that no more drink should be sold to her father, pointing out that it was she who cleaned the kitchen from the morning after. I am sure that if Elsa Lanchester had been present she would have been delighted at the rendering of her song from *Riverside Nights*. After such a programme of debauchery we heaved a sigh of relief as Mr Rake came forward to sing. We judged him correctly, as we were soon aware, above such mundane affairs as beer and babies. He sang several songs, of which we liked best the *Girl Friend* ; with such conviction did he sing this that we were almost lead to believe he was voicing his own feelings. Mr. Hudson then appeared, and before our very eyes changed himself from a flamboyant coster woman into a breezy Scot. He did this remarkable change by elevating his skirt until it was a kilt and suspending his wig sporran-like from his waist. This accomplished, he straightway transported us body and soul to the Highlands—no mean accomplishment in so short a space of time. Sad to relate, our sojourn in the Highlands was to be short. Mr. McConnell brought us back to Boroughland with *Ma, Look at Charley*. An entirely new theme of fish balls was introduced by Mr. Plowright, finishing with the moral, " Don't ask for bread with one fish ball." In point of fact we always avoid fish balls, and so have no occasion to ask for bread.

Mr. Clifton amused one and all with his song and dance, but what amused us even more was the expression of almost terror on the pianist's face when he saw Mr. Scott dressed in a multicoloured garment and opera hat standing quite at ease on his head, at the same time roaring the chorus of *Seven and Eleven*.

All gaps were successfully filled by the two versatile pianists, Messrs. Ive and Leader. Some of the gaps took quite a lot of filling, but at no time were either of the accompanists at a loss. No. 3 John also very kindly assisted by playing and singing.

At 6 o'clock we retired, still feeling slightly overeaten, but with reminiscences of a good afternoon well spent.

Evelyn Ward.

EVELYN held a Concert on Tuesday afternoon, December 27th. We feel that the smaller upper wards, however attic like, present less difficulties to effective decoration at Christmas time than the larger wards below, and certainly Evelyn looked most charming in its luxuriant laburnum dress. This made an admir-

able setting for the stately minuet performed by tiny dancers in dainty crinolines we found in progress when we looked in for a few moments during the course of the afternoon. The Misses Marjorie and Ivy Foote with their songs at the piano provided entertainment of a much appreciated kind, and the numerous other items were of like high quality.

Luke Ward.

LUKE, though taking-in, was not deterred from great efforts both at decoration and a concert held on Tuesday, December 27th, at which Nurse Egerton, Mr. Patrick Hammock and Mesdames Morris and Wynne Jones provided some much appreciated items.

Attracted by the undue darkness of the ward on Thursday afternoon, December 29th, we found a most novel film show in progress. Mr. Ive was in the course of playing himself dry at the piano in gallant competition with a somewhat noisy projector. He need never worry regarding his future should medicine prove unattractive, the kinema will always provide him with a job. We were much amused by Felix and one of the old slapstick Chaplin two-reelers. The crook drama which followed we found antique but hearty. With its fat jewels, its long haired and skirted heroine endangered by polished villian it had certain flavour of Maria Marten, but none the less was much appreciated.

We offer our congratulations to the ward on such a triumph over immense difficulties.

The Bright Concert.

ONCE again, we in Bright were very fortunate in having Mr. Corelli Windeatt at the Christmas Concert. With the support of his band and several well-known artistes, he arranged an excellent and varied programme. Amongst the items given by the band, the "Hallelujah" chorus seemed extraordinarily familiar. Perhaps the recent performance of classics by the "Niggers" had educated our tastes.

Mr. Hughes Thorne amused everyone by conjuring up the vision of the "Schoolmaster" worried by his precocious pupils, who were there vocally, if not corporeally. He was followed by Miss Mortimer, in more serious vein, who sang several songs. Miss Pruvineer, of the younger generation of artistes, then delighted us all with a demonstration of how it "Positively Absolutely" is done in the best circles. Mr. Windeatt's 'cellist now rendered a solo, much appreciated by all.

By this time the "Bow-Wows" had satisfied the pangs of hunger and thirst after their matinee, and the audience went over to the Prince-of-Wales Theatre. Mr. Davy Burnaby was received with acclamation, and in "Copper-Nob" was nobly supported by the lungs of the audience. The community singing of that heart-rending lyric "Two Cods Coddling," led by Mr. Milton, should have been productive of more volume; but those present were keener on listening to the conductor than obeying his exhortations. The announcement that Miss Betty Chester would give an address on "Sex Appeal" caused apparent consternation in some quarters. However, the end of her eulogy —or exposition!—found everyone carried away by her burning eloquence. Before leaving, Mr. Davy Burnaby found Mr. Stanley Holloway and Mr. Norman Long in the audience, and hailing them as long-lost brothers, "compelled" them to mount the platform and assist.

Mr. Harold Farrar now sang, and included the fragrant "Maire, my Girl," to our delight; and a very successful concert came to a close with further items by the Band.

We offer our grateful thanks to Mr. Windeatt and the artistes who gave up a well-earned respite from work for our enjoyment. Our thanks also go to the Works Department for their steady support of the artistes. An inseparable part of the festivities was the excellent tea provided by the labours of Sister and the Day and Night Nursing Staff.

Papers by Guy's Men.

H. W. Barber, M.B., F.R.C.P. (1) Two Cases of Folliculitis Ulerythematosa Reticulate (MacKee and Parounagian) Combined with Lichen Spinulosus, Epidermal Cysts and Folliculitis Decalvans; (2) Lichen Planus, previously shown as Confluent Lichen Nitidus, *Proc. Roy. Soc. Med.*, xxi, 1927, 180; *Sec. Dermat.* 10.

——— and John W. Eyre, M.D.(Durh.), M.S., D.P.H. Acrodermatitis Continua (Hallopean) vel Dermatitis Repens (Crocker), *Brit. Jour. Dermat. and Syph.*, xxxix, 1927, p. 485.

T. B. Layton, D.S.O., M.S. (1) Laryngeal Case Shown in May and June, 1927; (2) Case of Sinusitis Complicating Scarlet Fever, Shown 6 years ago, *Proc. Roy. Soc. Med.*, xxi, 1927, 299–300; *Sec. Laryngology*, 11–12.

C. Lambrinudi, F.R.C.S. An Operation for Claw-Toes, *Ibid.*, 239; *Sec. Orthopædics*, 17.

W. M. Mollison, C.B.E., M.Ch. Fixation of Left Cord Due to Blow on the Neck, *Ibid.*, 298; *Sec. Laryngology*, 10.

W. W. Payne, M.A., and E. P. Poulton, M.D. An Unusual Type of Insulin Reaction in a Diabetic Patient (Communicated), *Ibid.*, 251; *Sec. Therap. and Pharmacol.*, 17.

Alan H. Todd, M.S. Dupuytren's Contracture in a Girl of Fifteen, *Ibid.*, 232; *Sec. Ortho.*, 10.

C. Worster-Drought, M.B. Acromegaly with Unilateral Paresis of Sixth and Seventh Cranial Nerves, *Proc. Roy. Soc. Med.*, xxi, 1927, 272; *Clin. Sec.*, 24.

——— Atheto-Chorea of Huntington's Type; Post-Encephalitic, *Ibid.*, 166; *Sec. Neurology*, 12.

——— Epilepsy with Hemianopia, Case for Diagnosis, *Ibid.*, 167; *Ibid.*, 13.

If We Could Advertise.

II.—THE PHYSICIAN.

"Well, Mr. Blobbs. I don't find anything organic; just run down a bit. I think a course of my Anti-Murmur Mixture, which you can obtain at any chemist, will do you a power of good; but to ensure it is taken regularly, I propose sending you to my Nursing Home in Somerset Square under the skilful guidance of my well-trained nurses from the latest Revue, 'Hello, Doc!' You saw my advertisement in front page of *Daily Wire*, did you? Well, that's good. Terms? Oh, I will send my account in to your Society."

The Dresser's Lament.

(With apologies to A. A. Milne)

I HAD a washout—a twice daily washout,
And I did my washout in bed number twelve.
I wanted some things to lay on my trolley,
And I looked for those things 'most ev'rywhere.
For I went to the Nurse who looks after the catheters.
" We've a lovely range of olive-headed catheters."
" Have you got a coudé, 'cause I don't want straight ones ? "
But they hadn't got a coudé, not anywhere there.

I had a washout, and I had another washout,
I did my washouts in eleven and twelve.
I did want some things to lay on my trolley,
And I looked for those things 'most ev'rywhere.
So I went to the Nurse who looks after the lotions.
" We've got a new bottle of methylated spirits."
" Have you oxycyanide, 'cause I don't want spirits ? "
But they'd no oxycyanide, not anywhere there.

I had a dressing, a nice sterile dressing,
On a suprapubic, who'd managed not to die.
I wanted some things to make him nice and comfy,
And I looked for those things 'most ev'rywhere.
So I went to the Nurse who looks after the packets
" We've got a sterile packet that's nearly full ot compress."
" Have you some ward dressings, 'cause I don't want compress ? "
But they had no dressings, not anywhere there.

I had no patients, 'cause I'd cured them all,
So I didn't go up to the ward that day,
But I went to the O.P.'s, the G.U.O.P.'s,
And I saw all the things you could ever want there.
So I'm sorry for the Nurse who looks after the catheters,
I'm sorry for the Nurse who looks after the lotions,
I'm sorry for the Nurse who looks after the dressings,
'Cause they never have anything you want up there.

(*N.B.*—Brown Bull says this is unfair, and Kwistofer agrees.
But Anne says they are biassed.)

D. F. K.

The Nurses' Dance.

A MERE male would like to say how much he enjoyed every moment of it right from Matron's cordial greeting to his final plunge into the outer frost, and he is most surely not alone in this appreciation, for the Nurses' Dance has somehow a quite distinctive *cachet* of its own.

In the first place there are two entirely different floors on which to dance, and, what is more, two very different bands to provide the necessary noise, an arrangement not only making for variety, but allowing of a certain enlivening confusion in the crowded halls and corridor between. Then the Nurses themselves, released for once from the starchy restriction of a uniform, invariably burst upon us in such a riot of costume and bring with their many-hued contraptions such spontaneous and infectious gaiety that their guests can hardly fail to have a real good time.

This year, our programme quickly full, we ventured first upon the more intoxicating syncopation of the larger hall. A short encore and we were headlong in the thick of the first of many bustling struggles in the crowd outside. If our next was with a dainty Columbine invariably the corridor was crammed with Hawaiian maids, Pierretes or Queens of Sheba. A gentle use of elbows, a little crumpling of the shirt, much stumbling over feet, and at last we were successful in our quest, in time perhaps for dreamy waltz or slow seductive blues. For these we sought instinctively the shining parquet of the smaller room and the smoother rhythm of its little band. Once more the merry melée of the corridor or else the quiet comfort of the lounge in which to venture on the art of sitting out.

In such a pleasant crush the evening went too quickly. A leopard skin defied our fears of imminent disaster, and midnight came with several dances yet to go. Matron kindly offered all the privilege of extra time, but the music makers, though willing to oblige, were in difficulties owing to the absence of a later train. Messrs. Gibberd and Maclean most sportingly came forward to solve the transport problem with the offer of their cars, so that we could look for Columbine again and claim the final waltz.

Auld Lang Syne, hearty cheers for the Matron, and we were in the corridor again, this time to say good-bye. A few hand shakes, much saying of farewells, and we were sadly wandering college-wards across the snow-strewn Park.

General Anæsthesia in Dental Surgery.

A Paper read before the Guy's Hospital Dental Society by Mr. J. A. Symmons.

MR. CHAIRMAN AND GENTLEMEN,—My subject to-night deals with one of the more difficult administrations the anæsthetist is called upon to perform, especially when the period of anæsthesia is prolonged, in distinction from the simple face-piece or mask administration.

The complications introduced by dental surgery, *per se*, in the induction and particularly the maintenance of anæsthesia are :—

(1) The field of operation occupies one of the respiratory channels normally employed by the anæsthetist.

(2) The facility with which blood and foreign bodies can fall into the pharynx, larynx or more remote structures, causing the embarrassment or cessation of respiration, and undesirable post-operative sequelæ—*e.g.*, septic pneumonia.

(3) Obstruction produced by operation—*e.g.*, depression of mandible.

(4) Counter pressure against the operator, sponging the oral cavity, the changing of gags and other extra duties which fall to the lot of the already well-occupied anæsthetist.

The first condition calls for the administration of the anæsthetic by one of the following channels :

(*a*) The nares, or tubes passing through them and extending below the soft palate.

Of these methods the former is the more usual for short operations on patients without nasal obstruction, the latter for more extensive operations ensuring the putancy of the upper respiratory passages in the presence of blood and mucus.

In nasal administrations it is essential to pack off the pharynx from the oral cavity to obtain adequate control of the anæsthetic concentration should the patient inspire through the mouth. This is especially indicated in nitrous oxide anæsthesia when the percentage is quickly reduced to an unworkable degree.

(*b*) By an intratracheal catheter passed through the mouth, or, preferably, the nares. The latter gives the surgeon a clearer field for operation, but is more difficult to pass.

The advantages of intratracheal methods are :—

(1) Positive ventilation of the lungs even after cessation of respiratory movements.

(2) Quiescent anæsthesia and fine control of its depth.

(3) Absence of any respiratory obstruction.

Disadvantages :—

(1) Difficulty in passing catheter.

(2) Ease with which overdose is administered.

(3) Bulky and noisy apparatus.

(4) Electric current required to drive motor.

(*c*) By rectal etherisation. An enema of ether and olive oil is administered. This method is undesirable owing to the impossibility of accurate-controlling the depth and length of anæsthesia.

After several fatal cases this method has rather fallen into abeyance. The advantages of rectal ether may be obtained by intratracheal methods with greater safety. Rectal administration is, however, sometimes desirable for intensely nervous patients.

(2) The second difficulty is minimised by efficient throat packing, the use of an aspirator, and the frequent changing of the sponges. The patient's head should be lowered when operating in the supine position to further protect the larynx.

(3) In the third case the operator must be advised of the obstruction he is causing, and the operation suspended until respiration becomes normal. If the obstruction is due to loss of muscle tone, and the consequent retraction of the mandible, forward traction must be applied to its angle and ramus.

Relapse or œdema of the tongue is best controlled by passing a ligature through its tip and allowing the free end to hang from the angle of the mouth. This ligature is also of use to the surgeon, allowing him to manipulate the position of the tongue with ease. The insertion of this ligature should be a routine procedure in lengthy operations.

Obstruction of the naso-pharynx and stimulation of the pharyngeal reflex may be caused by too large a sponge placed too far back in the mouth.

(4) The anæsthetist can be relieved of the duty of sponging by an assistant. In some cases the surgeon prefers to do this himself.

Having determined the passage through which the patient shall breathe, the oral cavity must be efficiently walled off from the pharynx. The most suitable material for this purpose is a soft bleached marine sponge, with large interspaces and the size of a tangerine orange. The sponge should be attached about its middle by a ligature which hangs from the angle of the mouth. By means of this ligature the following advantages are obtained :—

(1) Speedy removal of the sponge when this is necessary.

(2) The pharyngeal reflex is not stimulated as is sometimes the case when the fingers touch the posterior pharyngeal wall while groping for the sponge under light anæsthesia.

(3) Compression of the sponge by hand during its removal and the consequent discharge of its fluid contents into the larynx is avoided.

POSTURE

The ideal position for the administration of a prolonged anæsthetic is undoubtedly the supine position. There are, however, many operators who insist upon the patient assuming the sitting position, saying that they can operate with greater ease in this situation to which they are accustomed.

The majority of dental surgeons at this Hospital prefer the supine position. The disadvantages of the sitting position for a prolonged anæsthetic are :—

(*a*) Greater liability to syncope, due to cerebral anæmia, especially during chloroform anæsthesia, which should never be administered in this position on account of lowering of B.P., to which it gives rise.

(*b*) The patient is more difficult to control should he prove obstreperous during the excitement stage of anæsthesia, also he may slip down in the chair. These difficulties are minimised by strapping the patient.

(*c*) Blood and foreign bodies are more likely to enter the trachea. In the supine position these complications are reduced or absent, the anæsthetist has a better view of the patient and is at once in a position to commence resuscitative measures should an emergency arise.

The sitting position is, however, quite suitable for short periods under anæsthetics that do not cause a lowering of B.P.

I will now describe the preparation, induction and recovery of a patient in the dental chair for a general anæsthetic.

The patient should sit well back in the chair, with his feet on either side—not on—the foot rest. This precaution robs the patient of a point on which he may lever himself should he prove troublesome during induction or go into opisthotonos.

The head should be in line with the trunk and supported at the occipital protuberance.

The patient should then be strapped in the following manner :—

He is first told that he is being held in position so that he will not slip down in the chair when he is alseep. The strap is then unobtrusively passed round the patient's waist from behind and buckled under the metal lug which projects behind the dental chair. If this is shrewdly done the patient will raise no objection, but rather appreciate the care you are taking. In private practice this is very important, for should a heavy patient struggle or slip out of the chair there will not be adjacent any stalwart members of the Rugger XV to replace him, as at Hospital. The patient is then requested to blow his nose, fold his hands in his lap, relax his muscles and go to sleep. Last of all the mouth prop is inserted. During the induction the patient should be continually spoken to and assured how well he is " taking the anæsthetic." He should also be told that he is being slowly " put under," as most patients think they should be anæsthetic after one or two breaths, and consequently worry when they find this is not the case. These points, though apparently trivial in themselves, combined with the confident manner of the anæsthetist, make for a quiet induction and subsequent even anæsthesia.

At the stage of surgical anæsthesia the sponge is placed in the mouth and rolled backwards into position on the palate. When applied in this manner the tongue is held forward and not pushed back, as is the case when the sponge is pushed straight back into the mouth.

The patient's colour phenomena are best observed by well diffused electric light. The blue light of modern lamps gives a deceptive hue, and is dangerous should the patient's condition be judged by colour alone.

(The phenomena of surgical anæsthesia I will describe under each anæsthetic.)

RECOVERY

The patient's eyes should be shaded ; he should be quietly told where he is and what has happened. He is then instructed to bend over the spittoon and rinse his mouth. This position compensates for the fall in B.P. after anæsthesia and wards off the faintness which is sometimes experienced.

NITROUS OXIDE

A sweet-smelling gas, the most pleasant and least toxic anæsthetic known.

It is wholly devoid of the irritant properties common to other anæsthetics. The gas is not inflammable—an important property when a cautery is used.

Nitrous oxide, *per se*, is an asphyxiant, and must always be administered with oxygen, either pure or atmospheric.

Little is known of the anæsthetic action produced by the gas, but it most probably acts by producing physical change in the lipoids of the brain cells.

The gas liquefies under a pressure of 30 atmospheres at a temperature of 7° C., a property which greatly increases its portability. Nitrous oxide should always be employed with rebreathing methods, which are briefly as follows :—

The patient expires into a bag instead of the air and with his next breath inspires fresh anæsthetic, together with part of his last expiration, which contains carbon dioxide. Now CO_2 is the normal stimulant of the respiratory centre in the medulla, and if the patient loses his CO_2 through valves, the respiratory centre will be but weakly stimulated, and shallow breathing or apnœa result. This undesirable state of affairs is avoided by maintaining the requisite percentage of CO_2 in the blood by rebreathing. Excess of this gas is apparent by the anxious expression the patient assumes and an increase in the *depth* of respiration.

The Advantages of Rebreathing—

(1) Fifteen seconds longer operating time in single dose anæsthetics than those employed without it.

(2) Shallow respiration is avoided as the respiratory centre is strongly stimulated.

(3) Considerable economy is effected in the amount of anæsthetic employed.

Its Disadvantages—

(1) The greater likelihood of nausea to which it gives rise.

(2) The necessity for washing out the bag after each administration.

The only contra-indications for nitrous oxide are : (1) Patients who have had a cerebral hæmorrhage ; (2) Cases of angina pectoris ; (3) Paralytics ; and (4) High B.P. Otherwise any person capable of withstanding an operation is a fit subject for nitrous oxide anæsthesia. Nitrous oxide and oxygen may be administered during pregnancy up to term, always provided that asphyxia and its consequent muscular spasm are kept in abeyance by an ample percentage of oxygen.

Primary cardiac failure caused by nitrous oxide anæsthesia is practically unknown, being always secondary to respiratory cessation.

Nitrous oxide and oxygen gives deeper anæsthesia than N_2O alone, and unpleasant dreams are less frequent with the former. A quarter of a grain of morphine sulphate hypodermically administered before the operation prevents bad dreams and other undesirable phenomena, gives a quieter induction and more even maintenance of anæsthesia, thereby preventing shock. After pain is reduced, an important point with speedy recovery made after nitrous oxide anæsthesia.

The Administration of Nitrous Oxide by a Facepiece—

The facepiece should be fitted with a three-way valved stopcock allowing air, anæsthetic, or a mixture of both, to be administered and provision for rebreathing. The stopcock should be set at air, and the bag three-quarters filled, the facepiece applied and the stopcock set at valves, the patient allowed four or five breaths, inspiring from the bag and exhaling into the air.

The stopcock is then set at "no valves" for rebreathing and the induction so carried to the stage of surgical anæsthesia with an occasional breath according to the presence or otherwise of asphyxial signs. The induction should be carried to the stage of stertor and light jactitation; the patient, if not anæmic, will be appreciably congested in the face, whilst plethoric patients will be cyanosed. Colour phenomena, however, should not be relied upon, as they vary so greatly in different types and races, being exaggerated in plethorics, slight or absent in anæmics and coloured races. If the bag is not kept fully inflated, or the gas applied with a rush, the patient will experience a most unpleasant feeling of suffocation.

I shall not describe the administration of nitrous oxide and air, as that of nitrous oxide and oxygen is in every way superior.

NITROUS OXIDE AND OXYGEN

N_2O is an asphyxiant ; it cannot be breathed alone without oxygen if metabolism is to be maintained. If this essential oxygen is obtained from the air—of which it forms one-fifth by volume—the remaining four-fifths of nitrogen must also be inspired.

Now a minimum of 8 per cent. of oxygen by volume is required in the lungs to maintain normal metabolism in the average individual. A patient under nitrous oxide and air anæsthesia without signs of anoxæmia will therefore breathe a mixture of approximately this composition.

Air 40 per cent., to obtain the required 8 per cent. of oxygen, allowing 60 per cent. nitrous oxide to be administered. With this proportion of nitrous oxide, anæsthesia is very light or absent, and to obtain the required depth the percentage of nitrous oxygen must be increased at the expense of air and consequently oxygen.

The patient is therefore forced into a state of anoxæmia. A patient kept in this anoxæmic state for an appreciable time has a severe strain thrown upon the myocardium, and dilation of the heart may occur, a very serious sequelæ.

When pure oxygen is employed with nitrous oxide, the 32 per cent. of inert nitrogen of the above figures is replaced by nitrous oxide, and the patient now breathes a concentration of N_2O

92 per cent. and his required 8 per cent. of oxygen with which deep anæsthesia and metabolism is maintained. The channel between anoxæmia on the one hand and recovery of the patient on the other is extremely narrow. The patient's symptoms must be closely watched and the flow of either gas to the mixing chamber immediately regulated. Uneven anæsthesia is conducive to shock, and once the patient has been allowed to come out of the anæsthetic he is difficult to induce again, and the ensuing anæsthesia is never so even.

THE NASAL ADMINISTRATION OF N_2O+O_2

The patient is seated in the chair as described before, the nasal inhaler applied with the airway open. The patient is allowed one or two breaths, then N_2O is admitted to the inhaler and the airway closed, the induction being carried to the stage of surgical anæsthesia under pure N_2O, except with anæmics, children, debilitated patients and alcoholics, all of whom are very sensitive to oxygen deprivation, and to these small quantities of oxygen should be given. Rebreathing is regulated by the control of the expiratory valve, the valve being thrown out of action after the induction, as a certain amount of expired air will pass through the mouth.

If the patient persists in mouth breathing a mouth inhaler must be applied until anæsthesia supervenes, the sponge placed in the back of the mouth, when respiration automatically becomes nasal. It is of little use to instruct the patient to breathe through the nose, as they invariably inspire through the mouth when told to do this; they also lose confidence, feeling that the success of the anæsthetic depends partially upon them.

The signs of surgical anæsthesia under N_2O and oxygen are wholly different from those of pure N_2O and asphyxia.

There are no anoxæmic signs, change of colour or jactitation. They are:—

(1) Respiration becomes rhythmic and stertorous in character.

(2) Muscles lose tone and become flaccid.

(3) Loss of conjunctival reflex.

The apparatus employed should have provision made for the addition of more potent anæsthetics, so that difficult cases may be handled with greater ease.

The most satisfactory method for accomplishing this is to bubble the gases through a bottle of the selected anæsthetic, fitted with a two-way tap, which allows any concentration from pure N_2O to a fully saturated vapour.

The crude method of injecting liquid anæsthetics into the bag is undesirable, owing to the greater nausea to which it gives rise, probably by the action of the anæsthetic on the impurities of the rubber bag and the products of metabolism deposited there during rebreathing.

The percentages of N_2O and O_2 administered are most accurately gauged by a sight feed device, in which the gases are aerated through water, the number of bubbles issuing from the supply tubes of N_2O and O_2 respectively showing the approximate amount of gas flowing from each cylinder.

A simple but less accurate method is to employ a Hewitt stopcock in conjunction with a heavy double bag. The heavy bag consists of an oxygen bag contained within a nitrous oxide bag. By this arrangement the greater the pressure in the external N_2O bag the greater the pressure on the internal oxygen bag, and vice versa, so that each gas is led to the stopcock mixing chamber at the same pressure. Inspiratory valves must be removed from gas bags when rebreathing methods are practised.

ETHYL CHLORIDE

A very combustible and volatile liquid boiling at 12.5° C. A very potent anæsthetic which after a preliminary rise appreciably lowers blood pressure by depressing the action of the heart.

The potency of ethyl chloride is increased by reducing the amount of air with which it is administered, but such a reduction increases the likelihood of after collapse.

Pure ethyl chloride should never be employed, but the preparation impregnated with eau-de-cologne, which is far more pleasant to the patient, gives rise to much less breath holding, a quieter induction and less nausea. It is best administered by open methods.

The Indications for Ethyl Chloride—

(*a*) For the induction of anæsthesia prior to its maintenance by intratracheal catheters, nasal tubes, etc., and less rapid and pleasant anæsthetics.

(*b*) For admixture with nitrous oxide in difficult cases.

(*c*) For short operations on children. For this purpose it has an important place in dental surgery.

Contra-Indications—

(*a*) Debilitated patients.

(*b*) Those suffering from respiratory embarrassment.

(*c*) Pregnancy and œdema of respiratory mucus membranes.

Ethyl chloride is the best anæsthetic for short operations on children. Full anæsthesia is obtained in less than a minute, with an available operating period of about a minute and a half.

The induction should be made with a Schimmel busch mask. The ethyl chloride should be sprayed on in small quantities at first to avoid breath

holding. Should this occur the anæsthetic must be withheld until respiration recommences.

Surgical anæsthesia is accompanied by a flaccid condition of the muscles, except the masseter, which often goes into spasm, rhythmic, stertorous respiration and loss of ocular reflexes.

Great care must be taken to ensure a clear airway with this anæsthetic or cyanosis and collapse will speedily occur.

A gag or mouth prop should always be inserted before administration owing to the frequency with which masseteric spasm occurs. Should the jaws become clenched without a gag between them they are best opened by placing one hand upon the patient's forehead and with the other depressing the chin, which method is far preferable to the forcing of gags between teeth inside the mouth.

ETHER

The best anæsthetic for most prolonged operations, such as the removal of badly impacted third molars. It is usually administered by intratracheal catheters or nasal tubes from a Shipway warm ether apparatus, actuated by compressed oxygen from a cylinder, or of air from a motor-driven pump.

Ether itself has a feeble depressant action on the heart, which, in the early stages of anæsthesia, is overcome by the stimulus that arises from the irritated respiratory passages that accompany the use of this anæsthetic.

Light ether anæsthesia stimulates the respiratory centre, while deep anæsthesia causes its depression. Morphine and atropine should be injected prior to an ether anæsthetic, the former to reduce the excitement produced by this anæsthetic, the latter to reduce the copious mucous secretion and counteract the cardiac effect of the morphine.

Ether is contra-indicated in :—

(*a*) Patients suffering from any inflammatory conditions of the respiratory passages.

(*b*) Patients with arterio-sclerosis and high B.P.

(*c*) Highly nervous patients.

CHLOROFORM

A dangerous anæsthetic, which under the usual circumstances of dental operations show statistically a very high mortality. In a series of fatal cases collected by Sir F. Hewitt death occurred almost invariably from cardiac failure without any previous warning while extractions were being performed.

Administration is usually carried on by a Junker's apparatus.

It is contra-indicated for all patients except those suffering from high B.P. and angina pectoris, or where a delicate operation must be performed on a perfectly immobile patient.

MEDICO-LEGAL ASPECT

Any person, whether qualified or no, may administer an anæsthetic, and is not held responsible to criminal law for the death of a patient under his administration, unless gross ignorance, negligence or rashness can be proved against him.

The patient's assent must always be obtained, or, in the case of a minor, his parents. Administration without this assent is an assault, and the anæsthetist may have proceedings taken against him.

Erotic dreams are common in N_2O and ethyl chloride. A third party should therefore always be present during the administration of these anæsthetics to disprove the allegations of criminal assault, which are often made in good faith against the anæsthetist.

The General Medical Council in the Bill drawn up by them, and which later will probably become law, recommend that the operator shall not administer the anæsthetic except in an emergency and in country practice where an anæsthetist is not available.

Of 12 collected fatal dental cases, 11 occurred where the operator had acted the dual role of surgeon and anæsthetist. A practitioner who has such a fatal case risks the severe censure of a coroner's court.

Guy's Hospital Christian Union.

LAST term the Christian Union began early in October with the Freshers' Meeting in the Committee Room of the Medical School. After tea an address outlining the position and capabilities of a Christian Union was given by Rev. A. Otter, the S.C.M. Secretary for London Medicals.

Following on this, weekly meetings for Bible Study were held in Room 42 in the College. At these meetings we studied St. Paul's Epistles, taking each as a definite entity in the position it held in the Apostle's life, and not as a collection of chapters and verses. Thus we tried to see the reason for their being written, and to gain an insight into Paul's character and work at different periods of his life.

This term we shall commence by reading the letters of James, Peter and John. The time and place will be the same : Thursday from 5 to 6 p.m. in Room 42 in the College. The room is on the second floor in the corner diagonally opposite the entrance to the College.

These hours of Bible study must necessarily be few, but they have proved of great value to us, and we know that there is no man in the hospital who could not increase their value by his taking part. We, therefore ask any fresher or otherwise, who will to come to Room 42 any Thursday at 5 p.m.

For those who want to get into touch with one of the committee with a view to finding out what the Christian Union is and what is its aim, the following is the Committee : J. C. McNeill (Dental), G. H. Taylor (Medical School), F. H. Stevenson (Wards).

F. H. S.

Correspondence.

Guy's Hospital.

Two Hundred Years of Service.

(*Reprinted from* The Times *of December 22nd*, 1927)

SIR,—All those who are interested in the voluntary hospitals will have read with interest and pleasure the report of the annual meeting of the Council of King Edward's Hospital Fund published in your columns on Wednesday, December 14th.

The figures quoted by the King's Fund bear witness to the stability of the voluntary hospital system and to the amazing efforts which have been made by the patients of the hospitals and by the charitable public to meet the greatly increased costs due to the altered social conditions since the War ; and it is gratifying to note that even though this has been a bad year for legacies, the general deficit on the London hospitals for the year is little more than 1 per cent. of their expenditure. Nevertheless, this is a deficit, and, though on the average it is of such small proportions, deficits are not uniform ; some hospitals have a surplus and others have deficits of much larger proportions. It is on this account that I am prompted to make an appeal on behalf of Guy's Hospital, which during the year under review incurred a deficit of £24,000 on a total expenditure of £170,000.

Guy's Hospital is in some respects in an unfortunate position. It has the reputation of being a rich hospital, but this is not a fact. Guy's Hospital has an endowed income of only £65,000, and the balance of over £100,000 required to meet the annual cost of maintenance must be obtained every year by means of subscriptions, donations, legacies and contributions. Moreover, Guy's Hospital is in an unfortunate geographical position from the point of view of appeals to the public. It stands behind London Bridge Station in a backwater, little seen by the public, and in these days of publicity not to be seen is not to be heard. The neighbourhood surrounding Guy's Hospital is not a fertile field for a financial harvest ; it is an area of small businesses, small streets, and slum dwellings, and, though its immediate neighbours contribute most generously, their help is quite inadequate for the purpose.

But, notwithstanding that, for the purpose of publicity and appeals Guy's Hospital is unfortunately placed, for the purpose for which it was founded—the treatment of the sick poor—it is in an ideal situation, for it is surrounded on all sides by congested masses of the poor, who rely upon its services in their hour of need, and who would be disastrously affected if these services were curtailed.

It is for these reasons that I am emboldened to appeal to the larger public for sympathy and for financial assistance to enable us to carry on, as we have done for the last 200 years. In as few words as possible I should like to base my claim for help on the following considerations :—

Guy's Hospital is not a rich hospital, but a poor one, and it is situated in a poor district, which is not able to support it.

Its work is not confined to its own area, but it serves London and England as well. Over 30 per cent. of its in-patients come from outside the London area, and of those who do come from London a high proportion are admitted from districts in London other than its own.

Finally, the money subscribed to the hospital is administered by the Governors with the utmost care. For many years past Guy's Hospital has been one of the most economical in London. Reference to the statistical returns of the King's Fund will afford ample confirmation of this claim.

On these grounds, therefore, Sir, I appeal to the charitable public on behalf of the hospital founded at the sole costs and charges of Thomas Guy, Esq. For nearly 200 years the munificence of Thomas Guy and other benefactors supported us without the necessity of frequent appeals to the public. We are now looking for another Thomas Guy !

Believe me,

Yours faithfully,

F. P. WHITBREAD,

Treasurer.

Guy's Hospital, S.E.1.

December 17th, 1927.

House Surgeon.

Accident and Surgical Hospital, Barry.

DEAR SIR,—May I, through your columns, call attention to the advertisement in the B.M.J. of December 31st, for a House Surgeon at the Barry Surgical Hospital. It is particularly desired to get a Guy's man if possible. Although a small hospital there is a great wealth of clinical material available, and the post would be admirably suitable for a man who wishes to study for one of the higher surgical examinations. To such a one there would be many opportunities given for performing major operations. Moreover, it will be noticed that the salary is exceptionally good and the quarters are comfortable. There is good golf, tennis and sea-bathing in the neighbourhood.

Yours faithfully,

N. L. M. READER,

Surgeon to the Hospital.

Barry Urban District Council,
Barry, Glam.
10th January, 1928.

BARRY URBAN DISTRICT COUNCIL.

ACCIDENT AND SURGICAL HOSPITAL (30 Beds).

HOUSE SURGEON (Male).

Applications are invited for the above appointment.

Candidates must be duly qualified and registered. Salary £200 per annum, with board and lodging.

Preference will be given to a candidate with previous experience, especially in the administration of anæsthetics.

The successful candidate must devote the whole of his time to the duties of his office, and to assist the Medical Staff, and act under the supervision of the Medical Superintendent, who is also Medical Officer of Health and School Medical Officer.

The appointment will be for a period of six months, to be renewed, if thought fit, for another period of six months, but not for any subsequent period.

The successful candidate will be required to commence duties at an early date.

Applications, stating age, qualifications, positions held, with copies of three recent testimonials, to be sent to Dr. P. W. Kent, Medical Superintendent, Public Health Office, Barry, not later than the end of January, 1928.

(Signed) T. B. TORDOFF, Clerk.

20th December, 1927.

Rugby Football.

DEAR SIR,—We are now through with the first half of the Rugby programme, and it is interesting to note our 1st XV results with that of the corresponding time last season. It will be noted that the scoring both for and against is very low; only on three occasions did our opponents reach double figures, while we scored double figures on two occasions. Unfortunately the severe weather at the end of the year caused the last three matches to be abandoned, and therefore only 14 out of the 16 down to be played took place. It is interesting to note that no London Club has yet beaten us. We have beaten the Quins, London Scots, Blackheath and Old Blues and drawn with Richmond.

We are now looking forward to the Cup Match, and trust that the Cup will remain at Guy's.

The following figures show details up to December 31st, 1927, and the figures for the corresponding time last season:

1926—Played 17, won 7, draw 1, lost 9, points for 164, against 212; per cent. 44.1.

1927—Played 13, won 6, draw 3, lost 4, points for 87, against 80; per cent. 57.7.

I am,

Yours truly,

ROY C. HOLLOWAY.

The Bungalow,
Edith Avenue,
Peacehaven, Sussex,
5th January, 1928.

Speciality.

THE GEM SUPPLIES CO., LTD., 67, Southwark Street, London, S.E.1.

THE Turkish Bath is frequently ordered by Medical Men as treatment in many cases. It is also a valuable factor in keeping the skin clean and healthy and toning up the system so that it resists disease.

The GEM PORTABLE HOME TURKISH BATH CABINET enables a patient to have a bath whenever necessary at a small cost, and without being obliged to go out of doors. It is simple, effective and beneficial.

The manufacturers have many excellent testimonials from constant users of their Cabinet.

Distilled water being quite pure and free from germs, is an absolutely safe drink, and the GEM PURE-WATER STILL is the most efficient and economical apparatus that can be used for it. No running water is required and it cannot explode as the steam is not generated under pressure.

It is made in three separate detachable parts, which make it easy to clean, when necessary.

Further particulars can be obtained upon application to the above address.

Sport.

Rugby.

Guy's *v.* Devonport Services.

CONSIDERING that this was their first match since December 10th, the Hospital Fifteen gave a splendid exhibition when on Saturday, January 7th, they defeated the Devonport Services at home by 12 points (4 tries) to 3 points (1 try).

The ground was on the heavy side and the greasy ball was difficult to handle—nevertheless, in spite of a number of dropped passes there were several brilliant rounds of passing between the threes of both teams.

Towards the interval Guy's gave the impression that they were tiring and that they would succumb to the physical fitness of the naval men as the game progressed. However the interval put fresh life into the home side and despite the desperate rushes of the Services' forwards, Guy's more than held their own and actually increased their lead.

Our forwards again played a fine game and with Myburgh hooking with his customary ease, Garland secured the ball with regularity and made good use of the many opportunities that came his way. Preen was an effective partner and repeatedly set his threes in action—it was only fearless tackling by the Services that prevented their line from being crossed more often.

On the other hand there were two or three anxious periods when the Naval men pressed on our line but our defence rose to the occasion and kept the visitors at bay. P. D. B. Spence in particular was sound at full back and his kicking was faultless.

The Services' forwards were particularly dangerous in the open, but it was good to see the Guy's men dropping on the ball without hesitation, despite the risk of injury.

Guy's attacked from the start and were nearly over in the first minute, but a forward pass almost on the line spoilt the movement.

A good kick by Gosling, the visitors' full back, drove Guy's back to their 25, but only for a minute or so. Robinson intersepted a cross kick and running very strongly succeeded in reaching the Services' 25 before he was brought down.

First Cameron and then Garland broke away, the latter passed to Spence to send in Malone for the Hospital's first try.

After Guy's had been penalised, Garland broke away, but Goodwin relieved. Following a round of passing between Preen, Spence and Robinson, the Services took up the attack, but P. D. B. Spence saved, and after giving the dummy, made a fine run before passing to Lewis to find touch. Guy's continued to press and the ball came to Popplewell, who seizing the opportunity, made for the line with a brilliant run and scored with two or three opponents hanging on.

Before the interval the visitors pressed heavily, but our defence held out and we crossed over to face the wind with a lead of 6 points to nil.

After our forwards had made a determined rush, the Services retaliated and Hogbin,who played well throughout, threw himself at the ball and prevented a score.

Ryan made a good attempt to break through, but he was too closely marked to make much ground. Offside against Guy's gave the visitors a chance to score, but Gosling missed from an easy position.

P. D. B. Spence again brought off another fine run and play was transferred to our opponents' 25.

From a scrum the ball was sent to Lewis who scored in the corner.

Soon afterwards the naval men crossed our line, but the try was disallowed.

The exchanges were now fairly fast and even, the ball being rapidly transferred from one end of the field to the other.

A fine forward rush by the Services enabled Thornton to cross our line and Gosling made a great attempt to convert, his kick hitting the cross-bar.

Fine runs by Ryan and Robinson and then Spence and Lewis nearly resulted in further scores, but the visitors' tackling was very sure.

The Services made a good attempt to drop a goal. P. D. B. Spence received and with a good kick found touch well down.

In the closing minutes, Guy's pressed strongly and eventually the ball travelled via Spence and Hogbin to Myburgh who scored our fourth try.

Durr was entrusted with the kicks, but with a heavy and greasy ball and the positions at difficult angles, conversions were practically impossible.

Guy's Team—P. D. B. Spence; T. G. Robinson, D. F. Ryan, F. H. B. Spence, A. J. D. Lewis; T. O. Garland, V. R. Preen; J. R. F. Popplewell, W. H. Myburgh, G. G. Cameron, J. Durr, R. A. Hogbin, J. H Cullinan, A. Simpson-Smith, C. D. Malone.

Guy's Hospital.

IN accordance with annual custom the House Committee publishes for the information of the Medical, Surgical and Nursing Staff the following Tables, showing the total number of Patients sent during the past year to Convalescent Homes :—

Wards	*Number of Patients*	
	1926	1927
Astley Cooper	8	5
Cornelius	7	5
Lazarus	28	35
Job	50	48
Naaman	15	17
Luke	34	16
Patience and Samaritan	11	9
Evelyn	10	20
Christopher	22	13
Dorcas	17	24
Lydia	46	35
Martha	70	54
Eye Wards	18	21
Addison	20	20
Mary	24	28
Stephen	19	14
Queen	10	9
Victoria	—	1
Clinical	3	68
Children's Ward	4	3
Bright Ward	1	—
Isolation Ward	—	2
Out-Patient Department	16*	25
	446	472

The subjoined list gives the distribution of the Patients amongst the various Homes :—

Ascot Priory (Men and Women)		22
Merchant Taylors' Home (Bognor)(Men)		9
Metropolitan Convalescent Institution—		
Bexhill (Women)	39	
Bexhill, Little Common (Men)	79	
Broadstairs (Children)	70	
Walton-on-Thames (Men & Women)	20	208
Parkwood, Swanley		159
Rustington Convalescent Home		35
Schiff Home of Recovery		39
		472

* In addition to the above, sums amounting to £229 6*s.* 4*d.* have been contributed by the Samaritan Fund towards 132 cases sent away by the Invalid Children's Aid Association and the Charity Organisation Society for long periods of convalescence through the Almoner's Department 132

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January 2nd, 1928.

Collecting Boxes.

List of sums found in the Ward Collecting Boxes, etc., and of Donations from Patients during the year 1927. The amounts received in the previous year are also given :—

	Box Collections 1927	*Patients' Contributions* 1927	*Totals for* 1926
	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*
Almoner's Office	6 13 4	—	8 4 2
Appeal Office	4 15 2	—	3 14 0
Colonnade	13 6 2	—	46 7 6
Conservation Room	13 7 10	2 12 0	16 16 11
Counting House	6 17 8	—	3 12 9
Deep Therapy (Skylight)	11 1 4	—	24 1 5
Front Gate	10 14 11	—	14 6 0
Light and Electricity Department	73 8 3	2 15 0	60 10 10
Massage Department	171 14 11	1 0 0	179 18 1
Out-Patients	63 5 1	186 14 6	222 0 5
Out-Patients' Annexe	41 4 2	—	11 10 5
Salomons Centre	7 3	—	—
Sunlight Department	11 8 5	—	11 11 8
Surgery	63 14 10	—	63 2 10
Visiting Day Collections	792 4 3	—	882 15 8
X-Ray In-Patients	1 8 1	—	—
X-Ray Out-Patients	7 8 8	—	6 2 5
Wards—			
Addison	12 10	299 1 1	334 6 3
,, (Re-Endowment Fund)	—	65 0 0	—
Astley Cooper	2 5 1	118 17 7	169 3 4
Bright	3 6	140 4 0	227 13 1

Childreb's	2 4 8	39 12 0	32 16 7
Christopher	1 7 3	411 17 0	317 15 1
Clinical (John and Miriam)	9 6	197 18 0	9 13 4
Cornelius	1 3 9	118 4 0	175 10 11
Dorcas	1 8 3	416 3 6	348 9 9
Esther	—	—	132 15 0
Evelyn	1 19 6	156 11 0	132 19 11
Eye (Ruth and Barnabas)	2 9 0	256 7 0	256 12 8
Job	17 6	235 4 0	304 5 7
Lazarus	1 11 6	215 2 6	223 0 1
Luke	3 6 11	213 10 6	242 6 4
Lydia	3 14 10	550 12 0	559 16 2
Martha	2 2 2	521 9 6	449 14 9
Mary	1 5 1	338 11 0	435 6 8
Naaman	2 13 2	311 7 6	387 17 0
Patience and Samaritan	8 4	108 4 4	155 8 11
Queen	18 5	472 12 6	481 5 3
Stephen	1 4 5	249 15 6	273 19 3
Victoria	18 5	121 0 7	—
Miscellaneous	—	54 14 6	82 1 0
	£1,326 4 5	£5,804 0 1	£7,277 2 0

Totals—

	1927 £ s. d.	1926 £ s. d.
Box Collections	1,326 4 5	1,439 10 4
Patients' Collections	5,804 0 1	5,848 1 8
	£7,130 4 6	£7,287 12 0

In addition to the above, the following sums have been received from Patients in respect of Special Treatments :—

	1927 £ s. d.	1926 £ s. d.
Light Department	178 18 6	112 1 6
Bright Electrical	12 9 6	8 16 0
Massage Department	254 13 10	259 18 0
Bright Massage	43 4 8	35 0 9
	£489 6 6	£415 16 3

January 6th, 1928

W. J. CURRY.

Hospital Information, etc.

Pass List.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.
F.R.C.S.
PRIMARY EXAMINATION.
December, 1927.

P. T. L. Day C. K. Simpson

SOCIETY OF APOTHECARIES OF LONDON.
Surgery.
H. S. Marks.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.
December, 1927.
F.R.C.S. Final.
D. J. P. O'Meara.

UNIVERSITY OF CAMBRIDGE.
THIRD EXAMINATION FOR MEDICAL AND SURGICAL DEGREES.
Michaelmas Term, 1927.
PART I.
Surgery, Midwifery and Gynæcology.

T. O. Garland A. C. Hampson

PART II.
Physic, Pathology and Pharmacology.

H. Girling J. W. Shackle

UNIVERSITY OF LONDON.
SECOND EXAMINATION IN DENTAL SURGERY
December, 1927.

T. W. E. Pugh A. R. F. Thompson

M.D.
December, 1927.
Branch I (Medicine)
W. G. Sears.

Change of Address.

H. P. Yew, M.R.C.S., C.M.S. Hospital, Yunnanfu, via Haiphong, China.

Births.

WILLIS—On December 25th, 1927, at Chinbrook Road, Grove Park, S.E., to the wife of G. S. W. Willis, L.D.S., R.C.S.—a son.

Marriages.

BALDING—LEWIS.—On December 22nd, 1927, at St. James's Paddington, W. Lionel Edmund Balding, L.D.S. Eng., of 47, Church Road, Hove, Sussex, to Ena May Lewis.

MARSH—DRABBLE.—On December 12th, 1927, at the English Church, Basra, Frank Marsh, M.B., B.S. (Lond.), son of Dr. and Mrs. Marsh of Dunahan, New Eltham, Kent, to Margery, elder daughter of Mr. and Mrs. E. Drabble of Westlea, Mattal.

GUY'S HOSPITAL DENTAL SCHOOL

TIME TABLE—SPRING TERM, 1928.

Subject	Lectures	Place	Practical	Place
INORGANIC CHEMISTRY	Tuesdays and Thursdays at 9.30 a.m., commencing on Tuesday, January 10th.	Chemistry Theatre	Tuesdays and Thursdays at 2 p.m., commencing on Thursday, January 5th.	Chemistry Laboratory
ELEMENTARY ORGANIC CHEMISTRY	Tuesdays and Thursdays at 2 p m , commencing on Tuesday, January 10th.	Chemistry Theatre		
PHYSICS	Tuesdays and Thursdays at 10.50 a.m., and Tuesdays at 12 noon, commencing on Tuesday, January 3rd.	Class Room IV.	Mondays from 10 to 1 p.m., and from 2 to 5 p m., commencing on Monday, January 9th.	Physics Laboratory
ANATOMY	(1) Junior Lectures :— Mondays at 9.30 a.m., Wednesdays at 11 a.m., commencing on Wednesday, January 4th (2) Demonstrations :— *(*a*) Bones Thursdays at 9.30 a.m., commencing on January 5th. *(*b*) Soft Parts Tuesdays and Fridays at 10 a.m., commencing January 6th.	Anatomical Theatre Anatomy Demonstration Theatre Anatomy Demonstration Theatre	Daily from 9 a.m. to 5 p.m., commencing on Tuesday, January 3rd.	Dissecting Room
PHYSIOLOGY	Thursdays 10.30 a.m., commencing on Thursday, January 5th.	Physiology Theatre	Thursdays at 11 a.m., commencing on January 5th.	Physiological Laboratory
HISTOLOGY	Tuesdays at 11.30 a.m , commencing on January 10th.	Histology Laboratory		
PRACTICAL SURGERY...	Times to be announced later			
GENERAL SURGERY ...	Tuesdays at 1.15 p.m. Thursdays at 3 p.m. Fridays at 1.15 p.m.	Class Room IV. Physiological Theatre Clinical Theatre		
DENTAL SURGERY ...	Mondays at 4.15 p.m., commencing on January 9th.	Anatomical Theatre		

* N.B. New Regulation L.D.S. Students in their Second Term of Human Anatomy must attend (a), and may attend (b) if they so desire.

Old Regulation L.D S. Students and New Regulation Students in their Third Term of Human Anatomy must attend both (a) and (b).

EDS. { G. M. H. / E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLII. *January 28th, 1928.* *Number 1031*

PASSIM

RUMOUR had told us that it was very good. While not wishing to be considered in any way a doubting Thomas, we always have been a little sceptical of hearsay. We have so often been let down by it—and sometimes most unkindly—that we must now see and hear before we can believe. Besides, who would so gamble with himself as to believe a rumour. Of a truth he must be a bold man and one with a tardy sense of self-counsel. For what are rumours. Are they not but a conglomeration of the expressions of many different cerebral cortices, each in turn adding the flavour of its own personal equation and extracting those points which, though essentially correct, may not be in harmony with their particular mind. We have no time for, or patience with, such a distorted version of the truth. Our own opinion, formed without biassed influence, if not always sound, is at least genuine. On this occasion, however, we might well have torn ourselves from our scepticalities. For it was very, very good. From the first moment, when the curtain rose to expose the nobility of Japan, until the last note of the National Anthem had ceased to stimulate our organs of Corti, we thoroughly enjoyed ourselves, and surely enjoyment is the criterion of a successful production. Judging by the applause of the rest of the audience our sympathies were mutual.

We have often been to light opera given by amateur dramatic societies. Some have been good—others not so good. But never have we been to any which have surpassed the excellence of *The Mikado*, as performed by the Guy's Hospital Musical Society. We are amazed at the talent which exists within our walls. While not wishing to encroach upon the province of our Dramatic Critic, who has written an account of the performance, which appears in this number, and though hesitating to single out individuals from such an excellent company, yet we feel mention must be made of Miss Marjorie Dyke who, as Yum-Yum, was so excellent, while Mr. Ride, as the Mikado, held us with an almost uncanny power. We could have listened to his rendering of *A More Humane Mikado* for hours. As for Ko-Ko, we can but add that musical comedy lost a very apt member when Mr. Clarke decided to join the medical profession.

We always had thought that *The Mikado* would be good—we still remember our delightful evening at *The Gondoliers*—but we had never expected such a masterly production. May we offer the Musical Society our heartiest congratulations, and, at the same time, add the hope that the day will not be far distant when we shall be having still another pleasant visit to the Guildhall School of Music.

THE annual Residents' Play will take place on February 7th, 8th, 9th and 10th in the Physiological Theatre, when *Gas and Oxygen* will be administered nightly at 8.15 p.m. The Residents extend a cordial invitation to all interested in this anæsthetic. Applications for tickets, which are limited, should be made as soon as possible to Messrs. S. C. H. Lane and D. C. M. Ettles.

The Dress Rehearsal, on February 6th, will, as usual, be available for those who are unable to attend on the following nights.

THE *Directory of Guy's Men (Medical and Dental)* is now ready for distribution, and all subscribers to the GAZETTE and *Directory* will receive their copies through the post.

Subscribing members of the Clubs' Union are entitled to a copy of the *Directory*, which, if required, may be obtained on application at the Wills Library.

Non-subscribers may obtain a copy in the Library, or at the GAZETTE Office (Counting House), Guy's Hospital, S.E.1, price 2*s.* 6*d.*

WE regret that an error occurred in our last number. The paper in that issue entitled "General Anæsthesia in Dental Surgery" was by Mr. R. Symmons, and not by Mr. J. A. Symmons.

The following House Appointments have been made:—

House Physicians—
To Dr. French, Mr. H. W. A. Post.
Dr. Poulton, Mr. F. G. Parker.

House Surgeons—
To Mr. Fagge, Mr. J. M. Turner.
Mr. Turner, Mr. R. Jarman.

Out-Patient Officers—
Messrs. R. S. de Bruyn, D. E. Dunnill, J. K. Moore, G. W. Rake.

Assistant House Surgeons—
To Mr. Hughes, Mr. W. F. Hudson.
Mr. Davies-Colley, Mr. S. I. Abrahams.
Mr. Bromley, Mr. O. Plowright.
Mr. Slesinger, Mr. W. S. McConnell.
Mr. Ogilvie, Mr. J. R. Rickett.

Ophthalmic House Surgeon—
Mr. A. B. Kettle.

Genito-Urinary and Orthopædic House-Surgeon—
Mr. C. G. Townsend.

Ear, Nose and Throat House Surgeon—
To Mr. Layton, Mr. L. Brown.

Clinical Assistant in Genito-Urinary Department—
Mr. D. J. P. O'Meara.

Clinical Assistant in Ophthalmic Department—
Mr. M. Shaw.

Junior Assistant Bacteriologist—
Mr. E. H. Richards.

On Chronic Fuso-Spirillary Infection of the Periodontal Membrane and its Treatment.

By F. N. Doubleday, L.R.C.P.Lond., M.R.C.S., L.D.S.Eng.

A Paper read before the Section of Odontology, Royal Society of Medicine.

AT a meeting of the British Dental Association held in Liverpool in June, 1922,[1] I endeavoured to distinguish between several different forms of chronic periodontitis, which are often grouped together and treated as "pyorrhœa." To-night I am bringing before you the results of another five years of observation and experiment upon one of these types. I want to make it clear that this is a clinical paper based on examinations and records made in the routine course of practice. These observations have been carefully and, I think, accurately made. Such pathological explanation as is at present possible must be drawn from the writings of those engaged in laboratory work, since I have not enjoyed the freedom from practice and from teaching which would enable me to follow out the pathological research which I should have liked to attempt.

There is a certain type of patient in whom considerable destruction of the periodontal membrane and bone occurs without the formation of any pus —at least, in the earlier stages. This seems to point to the fact that the infection is one with organisms which have a negative chemiotaxis. On examining the patient, a pocket, of varying depth, is found around the affected teeth; a collection of whitish material, mainly food débris, may be seen round the neck of the tooth; in later stages secondary infection with pyogenic organisms may occur and then pus will be formed. The inflammation of the surrounding gum varies in degree. It is always red, sometimes intensely red and bleeding on the slightest touch. The bone of the socket may be decalcified and peptonised so that the tooth becomes very loose. When, after careful cleansing of the surface, direct films are taken from the deeper parts of the pocket, stained with carbol-fuchsin, after washing with acetic acid to remove débris, two organisms are constantly found— —*spirochæta dentium* and *bacillus fusiformis*. The mild cases will go on for years with little destruction of the periodontal membrane and bone, the severe ones are associated with a rapid and progressive decalcification and peptonisation of bone.

I could record many cases in which the treatment has been successful and the infection has either not recurred at all or only done so at occasional intervals, but I want to report examples in which the infection has persisted over long periods of time because having the patient under constant observation and examination one can make sure that exacerbations of the disease are

always accompanied by a great increase in these organisms, and that their disappearance under treatment is accompanied by alleviation of the symptoms.

Mrs. X., married, aged about 30, first came under my care on March 11th, 1922. She complained of bleeding from her gums and was anxious as to whether she was "getting pyorrhœa." Apart from an inflamed condition of the gum margin, her mouth was clean and healthy; she took great care of it and had been under regular dental treatment since childhood. Her teeth were all present, her dental arch was regular and not unduly crowded. Direct smears showed the presence of abundance of spirochætes and fusiform bacilli. After some preliminary gum treatment I removed her third molars on the left side, with the intention of allowing some spacing of her remaining teeth, ordered thymol to keep down the leptothrix and a tooth paste. Her subsequent history is as follows:—

February 28th, 1923—Exacerbation of gum condition which yields to treatment, abundance of spirochætes and fusiform bacilli present.

May 16th, 1924—A fresh recurrence, this time associated with pregnancy, again abundance of spirochætes and fusiform bacilli.

September 4th, 1925—A new attack; this time there is also a pyogenic infection and some pus.

In addition to the local treatment, the patient was ordered tabellæ parathyroid co. (Harrower) gr. 1/20 and collosol calcium (Crookes) one teaspoonful, night and morning, for two months. When she next reported on May 26th, 1926, her mouth was clean and healthy again, and she said that she had been so much fitter generally that she wondered whether it was due to the medicine which she had taken for her gums. The organisms are typical of those always present and are shown in Fig. 1.

Miss Y., single, aged 18, came under my care on April 10th, 1918. She had a fuso-spirillary infection of the type already described, which was most marked in the upper premolar region. She has been under regular observation ever since. I have been able to ascertain that she always gets a fuso-spirillary infection first, but have not in her case succeeded in preventing a pyogenic infection from following it. Two typical films from her gum pockets are shown in Figs. 2 and 3. The point I want to make clear is that for over 9 years fuso-spirillary infection of the gum has been the first and most constant warning of trouble.

Mrs. Z., aged about 18, first came under my care in 1913 with typical bleeding gums standing away from the teeth. I had her under observation and treatment until 1919, when she went with her husband into a country district in South America, where she has been unable to get treatment except such as she could give herself. On her return to England for the first time in the spring of this year I found that she had been reasonably successful in keeping the condition in check, but the gum pockets were swarming with fuso-spirillary organisms.[1] It was remarkable what three weeks of treatment did in this case, and it is especially to be noted that as the number of organisms in the smears diminishes, so the clinical condition clears up. It is important to note that these patients and the others who have been under my care have not developed any general trouble except an occasional tonsilitis, which rapidly yields to the treatment employed for the gums.

Let us now carry this point further and ask, "What are the conditions in which destruction of the periodontal membrane occurs without formation of pus?" There are cases where a virulent hæmolytic streptococcus is present with scarcely any positive chemiotaxis. These are most important, and thorough search should be made in every case for such a streptococcus, because its presence has such pathological significance to the patient. There are the cases of fuso-spirillary infection which I am now describing. There are also cases in which a general constitutional disturbance is responsible for the condition. In a previous paper,[2] I have described such cases as occurring most frequently in unmarried females in middle life. They keep their mouth scrupulously clean and there is neither pus nor any organisms other than those which may be obtained from every mouth, yet they too get marked destruction of the bone and alveolar process, which to-day we are learning to ascribe to unbalanced secretion of the ductless glands, lack of vitamins and food deficiencies, faulty calcium metabolism and other causes. It is probable that in some cases of general constitutional disturbance such as nephritis, diabetes, gout, intestinal toxæmia, etc., similar bone destruction may occur as Talbot,[3] Roy,[4] Hopewell-Smith,[5] Fleischman and Gottlieb[6] and others have described.

A study of the literature relating to the two organisms concerned in this condition reveals a general agreement that, growing together, they are concerned in the production of various pathological conditions. Vincent's angina, ulcero-membranous stomatitis, acute trench mouth, gangrenous stomatitis, certain forms of acute tonsillitis may all be due to them. When we turn to the bacteriological methods employed in examining them we are faced with marked diversity of opinion.

Bacillus fusiformis is rather a large oat-shaped bacillus, with pointed ends. It is about 10–14 microns in length and about 0.75 micron in breadth. It is a gram-negative organism, but stains well

with carbol-fuchsin. It then shows an elongated body with pointed ends, the central protoplasm staining less deeply than the periphery. Sometimes there is the appearance of a capsule around it. It grows with difficulty in culture. Ruth Tunnicliffe[7] using ascites-agar and blood-agar as a medium, and growing the cultures anaerobically, asserts that *spirochæta dentium* is a stage in the growth of *bacillus fusiformis*, but this appears to be incorrect. A bunch of fusiform bacilli, growing under natural conditions in the mouth, is shown in Fig. 3. *Spirochæta dentium* was first described by Plant[8] in 1894, and two years later by Vincent[9] in Paris. Kritchevsky[10] and Séguin have shown that the organisms may penetrate the periodontal membrane and be found in the bone. An illustration of this is also given by Sir Kenneth Goadby.[11] Since then numerous attempts have been made to group and classify them, all of which are unsatisfactory because of the difficulty of obtaining them in pure culture. There is considerable dispute as to their nature and generic name. By some they are spoken of as spirochætes, others prefer to name them treponema, and yet others as borrelia. Appleton[12] gives the following definitions of these terms :—

"Borrelia, a spiral flexible body with terminal filaments but no membrane. Treponema, parasitic and frequently pathogenic forms with undulating or rigid spirilliform body. Without crista or columella. With or without flagelliform tapering ends. Leptospira, parasitic forms, sharply twisted cylinders with flagelliform tapering ends, one extremity being sharply curved into a hook."

Appleton gives a table for the identification of 16 varieties, using their dimensions, form, ends and motility as means of differentiation. Hewlett[13] gives 13 forms as being concerned in 12 different diseases. Bulleid[14] enumerates 4 varieties as commonly occurring in the mouth. In the absence of exact photographs it is extremely difficult to be certain whether one is making comparison under the same conditions as other observers. The untouched illustrations accompanying this paper will best show the organisms which are here described. Until laboratory workers have obtained satisfactory pure cultures of these organisms and succeeded in growing them in symbiosis, the fusiformis bacillus with the *spirochæta dentium*, the full explanation of the problem will not be reached. I think, however, that light is thrown on the problem by the work of Noguchi.[15] As reported in my Liverpool paper, this worker succeeded in growing spirochætes in pure culture in a medium of sheep's serum containing sterile animal tissue, and he has since further elaborated this method. Now, these are the identical conditions under which the infection is seen in the mouth, the clinical evidence for it consists in an undue quantity of serum and blood with little or no pus. These conditions I know and recognised as being associated with chronic fuso-spirillary infection first, and I only learned of Noguchi's work afterwards when I was working up the data for my Liverpool paper. There is, of course, the risk that all cases of periodontal disease may ultimately be proved to be due to some ultra-microscopic organism of which at present we know nothing. We can, however, only act in the light of our present knowledge. Glynn[16] asserts that a streptococcus is present in every case which he has examined, but he makes no statement as to the type of streptococcus found. I think it is true that a streptococcus may be obtained in every culture taken from the mouth, and especially from the neighbourhood of the teeth. This, however, is also true of ulcero-membranous stomatitis or any other fuso-spirillary infection, but it is not sufficient to prove that they are all pathogenic. I submit that where the streptococci are pathogenic you usually get pus, and that in those rather rare cases where the streptococci produce a negative chemiotaxis the bacteriological picture is still clear, the broth and agar tubes will swarm with streptococcal colonies and the direct smears will contain few or no spirochætes and fusiform bacilli, while in the fuso-spirillary infections the great number of these organisms present forms the essential feature in the picture.

TREATMENT

I always begin the treatment of any case of periodontal infection by making a bacteriological examination of the contents of the gum pockets, taking cultures on glucose broth and blood-agar and direct smears, which is repeated later if I am not clear as to the type of infection with which I am dealing, until it is certain what the prevailing type of infection is. A thorough scaling is followed by the taking of record impressions. From the study and comparison of the resulting models with the mouth I try to discover where the food traps forming the foci of infection are. If I can relieve a general or local overcrowding of the teeth or get rid of a food focus by the extraction of an occasional tooth I do that. I then endeavour to make sure that the patient's teeth are functional, avoiding artificial dentures if it is at all possible, but it must be remembered that no part of the body is healthy unless it is doing work ; function is essential if the normal flow of blood and lymph through the vessels of the supporting structures of the tooth is to take place. Then the habits of the patients must be gone into. They usually eat —and often drink and smoke—too much. The

question of the norma action of the bowels and the proper proportions of the diet need examination. Finally, they need instructions as to the manner of caring for their own teeth.[17] I always try to keep constantly before my patients' minds that I look after them occasionally, but that they are their own dentists every day in the year, and thus it is upon their efforts rather than upon mine that the success of the treatment depends. I have gone into this treatment, which is general for all forms of periodontal disease, at such length because without this care and examination there is, in my opinion, no hope of success. The local treatment to which I wish to draw your attention is by oxidation. After the patient's mouth has been thoroughly scaled and cleaned a sterile saliva injector is inserted, and the area to be treated is isolated with cotton wool rolls (large sponges) and clamps. A drop or two of chromic acid 5 per cent. are now run into the gum pockets, and to it is added a drop of two of liquor hydrogeni peroxidi. A foaming black mass results, due to the formation of chromium sesquioxide. I think that under natural conditions the organisms must live as facultative anaerobes, under a film of mucus ; at all events they cannot survive in the presence of so much free oxygen. Another beneficial effect of the chromic acid is that it has a very marked inhibitory effect on the secretion of the mucous glands and dries up the mucous membrane. Both the natural habitat and the artificial medium on which the organisms grow show that abundance of free serum afford the most suitable medium for their growth, and the chromic acid by lessening the amount of serum helps to inhibit their growth if this treatment is repeated two or three times a week for about a month.

On what does the suggestion that there really is such a condition as chronic fuso-spirillary infection of the gum rest ? I think one may put forward as good evidence the undoubted fact that there is a clinical condition of the gum characterised by the presence of serum and blood, but little or no pus, in which these organisms are found in direct smears, and that when in the course of treatment the organisms gradually disappear the clinical signs clear up as well. We must further note that the pathologists in attempting to obtain cultures of these organisms succeed best when they grow them on some form of serum which is the condition under which they thrive best in the mouth. It is interesting to note that free growth of these organisms is often seen where artificial dentures are pressing on gum tags and a local inflammation and exudation of serum are occurring. The fact that in artificial cultures they grow best anaerobically, while the treatment which has yielded the best results is essentially one of oxidation also fits into the picture. In conclusion I should like to urge you not to shut your minds to the possibility of there being more than one type of periodontal infection. To demonstrate the histological changes in the normal and diseased tooth structures is an essential and necessary part of our work, but patients come to us suffering from bacterial infections which we must search out and treat, and this paper is an attempt to throw some new light on this problem.

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Practice Made Perfect.

An Address by J. A. B. Hammond, M.B.Lond.

WHEN your president and my friend asked me to read you a paper upon some aspect of General Practice, I accepted with pleasure tempered with fear. With pleasure because I believe in General Practice, and that after a trial of over 25 years ; with fear because I have no great faith in my ability to express what I have in mind to say.

In the first instance I want to stress a point that has been insisted upon over and over again at so many of the annual addresses given to the various medical schools. You must not regard General Practice as a last resort for the unsuccessful student. To do so is to enter upon your career without inspiration and with a lack of enthusiasm —the spirit of having to accept a consolation prize.

Some years ago there was published a book called *The Corner of Harley Street*, by H. H. Bashford. I hope that those of you who don't know this book, which is full of humanity and humour—qualities which the practitioner needs at every turn—will make a point of seeking this volume. The book is in the form of a series of letters written by a consulting physician to various friends and relatives, and I want to read you a passage taken from the letter to his nephew, John Summers, M.B., who is considering the question of going into general practice.

He writes : " General Practice is at least as difficult, if it is to be carried on well and successfully, as any special practice can be, and probably more so, for the general practitioner has to live continually, as it were, with the results of his handiwork. He is always liable to meet his failures round the next corner. The consultant, on the other hand, comes into the family life from afar, and returns again, an hour or so later, to the seclusion of his private fastness. He has brought down his little bit of extra technical skill or knowledge. He has used it for good or ill.

Moreover, in all the hundred extraneous interests that are involved, the general practitioner's advice becomes of paramount importance. *This* would be the best room for the patient from the point of view of quietness and aspect. But *that*, on the other hand, is the room he has been used to. His favourite books and pictures surround him there in the old accustomed order. Does the doctor think it better for him to be moved ? His wife, his brother or sister are anxious to nurse him. Are they enough or skilful enough ? What is the doctor's opinion on this point ?

And from this household he has to drive home by a private school, where lies some boy with a cheerful countenance and a suspicious red rash on his chest. It would never do to create a false alarm, but, on the other hand, it would be more than disastrous to let the origin of some sweeping epidemic go free for convenience's sake. And here is a servant maid in the surgery with a throat that looks as diphtheritic as a throat can well be, and she comes from a dairy farm that supplies half the town with milk, while the rector's wife, nervous and uncomfortably near 40, is expecting her first, long-looked-for baby some time this afternoon."

Such a day of conflicting and varied problems is by no means rare in the country doctor's life, and, as the author remarks, though it may take a good man to remove an adherent appendix or to diagnose some out-of-the-way cardiac lesion, it must require a man of at least equal mental equipment to deal wisely and rapidly with such a sequence of cases as those just described.

Specialism is bound to go on increasing as methods of diagnosis and treatment become more and more elaborate, but do not let this mislead you into thinking that the general clinician's day is over. On the contrary the greater the pitch to which specialism is brought, the greater the need for the generalist who, keeping abreast with the advances, and making himself familiar with the main principles, of these new methods, is able to lead his patient safely through the maze to the consulting room of the specialist best suited to his particular case.

We are accustomed to repeat that commonplace—poets are born, not made. Now I am sure that it is equally necessary for general practitioners to be born before they are made. All artistes, whether they work in colour, stone or woods, must have mastery over the material in which they express their ideas and ideals, and the really successful and helpful practitioner must be a master of what is the most subtle and variable of materials—human nature. The pathologist sees and examines his patient's blood, his expectoration, his excreta and so on, but he hardly ever sees the patient himself, and even if he did he could not culture his patient's character. The radiographer can screen his patient's peristalsis, but there is no ray known that will reveal to him his patient's personality.

The specialist called upon to pronounce his opinion of some obscure disease after a short interview of some 30 minutes has generally to depend upon the family physician for a summing up of the patient's temperament, habits and family surroundings, and, having given his verdict, it remains for the general practitioner to fit the course of treatment prescribed to the patient's personality and, what is often equally important, his purse. In short, it is the practitioner who has to treat a patient suffering from a disease, whilst the specialist is often only called upon to treat the disease, a difference which separates the artist from the pure scientist.

I originally called to-night's paper "General Practice—Real and Ideal," but I must confess the title was selected before the paper was written, and that when I came to tackle the subject I found my sympathy and interest was all for the Ideal. Practice made Perfect. The Real was an everyday fact of which we are too often painfully aware and only too anxious to get away from. So I shall, with your permission, drop the Real and follow the more elusive will-o'-the-wisp Ideal.

No doubt we have all had vague longings for the ideal practice without any very precise views as to its essentials or how or where it was to be obtained. If I can, I want in some way to help you, who are so shortly starting out on your great adventure, to do so with something of a definite perception of how the desired goal may be reached.

It seems to me the secret is largely a matter of building up, of creating right relationships between yourself and your patients, between yourself and your fellow practitioners and, by no means least important, a right relationship with those consultants whose advice and guidance you are going to ask for in difficult and anxious cases.

First, then, the right relationship between you and your future patients. How can it best be established. I think mutual confidence is the keynote to the situation. I remember my old chief, Dr. George Newton Pitt, for whom I was House Physician over 25 years ago, saying to me that there was always room in London for a general practitioner who did not call in a specialist directly the child's temperature was over 101°. In other words, learn to rely on yourself and your patients will rely on you. I know of no better place to learn the lesson of self reliance than a few years spent in a good country practice, where the calling in of a special opinion is something of an exception and an event rather than, as it often is in London, a daily happening.

Of course there is a qualification to this generalism. There always is. If things are not going well with your patient, try and anticipate the request for what the public loves to term a second opinion, and if you are puzzled by the case do not hesitate to say so, at the same time explaining in simple and suitable language where the difficulty lies. It is the wise man and not the fool who has the courage to frankly admit "I don't know." The public for the most part are sensible enough to realise this.

When you make a mistake, as everyone who does anything worth doing in life must do, do not let depression and brooding rob you of all confidence in yourself, but rather remember what the philosopher Nietzsche said: "We are made by our mistakes, unmade by our regrets."

Again, I think there must be an atmosphere of friendly affection between you and your patients. A rather matter of fact specialist once remarked: "All the patients you send me are so charming. What, may I ask, do you do with your unpleasant ones?" I had to explain that I could not attend really unpleasant patients, for being unable to hide my feelings a spirit of antagonism quickly sprang up between us and then we both realised that the sooner we parted the better. Yet another qualification. Do not get too friendly with your patients. As the wisest book in the world has said: "A prophet is not without honour save in his own country." To take a very frivolous example, it would be difficult to lay down the hygienic law that cocktails are pernicious—by the way, I remember hearing your ever-tactful president, faced with the very question, replying, "Why drink cocktails when there's such a wine as sherry?"—to a patient who has seen you very obviously enjoying one yourself. Tear out a leaf from the wisdom of the East and bear in mind that a little mystery is often quite good medicine.

Before I pass on to the next section of my paper there is one very important point I must touch upon. We do not sufficiently realise that our patients come to us not so much because of certain symptoms—such as pain after food, headache, frequent and painful micturition—but because they are filled with apprehension. They fear the worst, and only too often they try to hide their fears—it is only the really courageous that are willing to confess to cowardice—by assuming an air of breezy bravado, which may all too easily deceive the yound practitioner into thinking he has to deal with a very unimaginative patient. Remember a prescription containing the very latest synthetic drugs for indigestion will fail to cure your patient, who in his heart of hearts thinks he has cancer of the stomach, unless at the same time you are able to dispel his phobia, and this is just where true sympathy comes in. The

best definition of sympathy I know is that it is the power to put oneself into another's place, both physically and psychologically. You must realise that your patient hasn't your knowledge and training, therefore he is not capable of interpreting aright his symptoms, and only too often a facile imagination will supply him with the most unexpected and absurd explanations of his disability. To put yourself into the position to reassure your patient it is necessary first to allow him to unbosom himself completely, as Dr. K Wilson puts it, " Studiously averting his eyes from the clock the physician must sit his patient out. Never harry or hurry your patient. (An elderly colleague of mine once remarked to me, 'Always take off your overcoat, however short a time you're going to stay.') In a word, the patient longs to be assured about himself and his symptoms. The physician's aim, therefore, must be to show by his investigation and his demeanour that he recognises the symptoms for what they are, that he is familiar with the course taken by such morbid conditions and that he is confident a cure is practicable."

Then, having heard your patient's story, don't fail to submit him to a detailed examination, both as to mind and body. It will satisfy him, quell his fears, and its results may perchance surprise you —an extensor plantor, for example, in a case of D.S., which has been referred to you as one of hysterical paraplegia, as once happened to me.

Sir Lauder Brunton once said Nux Vomica and Hope were the two best tonics in the world, and be sure that you never let your patient leave your consulting room without at least one of these, Hope.

Finally, don't fail to order some definite line of treatment, not necessarily a prescription, for your patient. We doctors, if we are wise enough, often put our trust in Nature and leave it to her to cure, but we must not forget that our patients, lacking the simple insight of the truly scientific, put their trust in us to cure them. Don't be afraid, if need be, to be empirical. There is a tendency in young doctors to be very sceptical of all treatment that cannot be explained on a physiological basis. Now, physiology is the most valuable of handmaidens to medicine, as anyone who has read Rendel Short's *The New Physiology in General Practice* or Langdon Brown's *Physiological Principles in Treatment* must realise, but, when we are ill, it is to the physician rather than to the physiologist that we turn. The Church has long since discovered virtue in rites and ritual. To wit, Elisha's advice to Naaman, " Go wash in Jordan seven times," and we should not hesitate to adopt the lesson, since it is often more difficult to save a soul than it is to salve a sore.

Do not ignore the fact that in these times of stress and strain the mind needs just as much therapeutic treatment as the body. To quote Dr. Wilson once more, " Patients often need, not a physician, but a divorce, a child, a bank account, a job, a holiday—an aim in life."

Recently I have read a little book called *Pygmalion—or the Doctor of the Future*, and, as you are all doctors of the future, I don't hesitate to tell you something of its theme. It is written by Dr. M. Wilson. No, not my friend, your Dean, though from conversations I have had with your Dr. Wilson I feel sure he would be in sympathy with much said by his namesake.

The author begins by pointing out that we live in a world which is continually smiting us by actual contact, by light, by sound, by touch and so on, and that to each of these assaults or stimuli we must make adequate response, the sum total of our responses is the sum total of our existence. He then goes on to point out that the presence of disease must inevitably influence our power to respond to these buffetings of life; in his words symptoms are signs not so much of reaction to disease, but of altered reaction to life resulting from the presence of disease.

Unless, as George Robey would say, you stop to ponder, this might appear, to the superficial, to be a mere splitting of hairs, a distinction without a difference. But on more mature consideration you will, I am sure, see, that it has a very practical bearing on the correct interpretation and treatment of your cases.

It may make the author's contention clearer if I cite a case of my own. I have been attending an elderly man who is completely deaf. Many years ago he suffered from intercostal herpes, which, no doubt, left, as it often does in the elderly, some patches of altered sensation, but my patient continues to live his life under the shadow of constant pain and hyperæsthesia, which he describes in most exaggerated terms. He is irritable and difficult to live with. Why is this so ? Physically he is a very hale and healthy man, but being so deaf he is denied the usual distractions of the outside world and, to use a paradox, he is a deaf man hearing life's call through a megaphone. He is a man fighting against great odds and so naturally shows symptoms of over reaction at those points where the shoe of life pinches.

Now, as a helpful practitioner, what are you to do in this and similar cases where you cannot remove the disease ? Well, it is up to you to lessen the severity of life's buffetings, hence you order rest to cut out physical fatigue. In the past practitioners were wont to order their nerve-exhausted patients a voyage round the world, with plenty of new impressions—advice which could

only still further exhaust their nervous system, already stretched to the point of snapping. I remember, some 25 years ago, meeting a very harrassed consulting physician on his return from such a trip. He confessed he was more worried and tired of life than he had been before his travels. A few days later he took an overdose of chloral to obtain the rest the world's tour had denied him. Or, again, you order a light diet to relieve the digestion, and if you happen to be an adept in psycho-analysis you unearth and throw on to the scrap heap any buried complex you are able to dig up and so quieten that elusive imp, the subconscious mind. Again, in these cases you must ever preach replacement rather than repression. It is no good telling a patient to repeat to himself daily, " I will not be depressed," or " I will not be afraid." That is a negative only in words. You must teach and help him to be so interested in aspects of life other than himself that he forgets to be fearful and is so occupied in outside interests that depression falls from him like a cloak automatically shed in the warm serenity of sunshine. It is equally futile to say to your patient, " You are seriously ill and therefore you must avoid all worry." It is like giving the poor wretch a knockout blow with your left and handing him a bottle of smelling salts with the right.

I will give you Dr. R. M. Wilson's idea of *The Doctor of the Future* in his words. He writes: " I venture to foresee a great reaction in favour of the doctor, in the older sense of that much-abused term, and I venture to foresee an evolution in the personality of the doctor himself. The physician of the future will not, as is now usually assumed, be a scientist of the orthodox type, a man with the technique of all laboratories at his finger ends and with the aim in his mind of elucidating the phenomena of life in terms of chemistry or physics. Rather he will be a humanist, a man with the widest possible knowledge of human nature, of human motives. He will be a cultured man, ripe in intellectual attainments, but not lacking in emotional sympathy, a lover of the arts as well as a student of the sciences. This is indeed no more than a projection into the future of a gracious figure of the past, for the great physicians of other days were all likewise great citizens of humanity."

Coming now to the right relationship between fellow practitioners I do not want to take up your time by making platitudinous remarks on the code of conduct that should govern our attitude towards each other. Your corporate life at school, and since at the hospital, will have taught you far more than I possibly could. But I do want to tell you something of an excellent suggestion put forward by Dr. Forrester-Brown in a paper on " Research in General Practice." In the first instance he remarks on the vast field general practice holds for research purposes, that whereas the specialist tends to see cases in an advanced and typical stage, the general practitioner is seeing these same cases in their embryo stages, and if only he had the trained observation and special knowledge to appreciate what these apparently trivial illnesses may and often do develop into, much valuable information, that now is allowed to run to waste, could be saved for research work. The writer then discusses the difficulties which so often prevent the utilisation of this wonderful material, chief of which is the too-varied nature of the field, which seldom provides enough material of one type for reliable conclusions to be drawn. As a remedy he advocates that there should be a sub-division amongst the practitioners in any one district, and that each should take up a branch of medicine or surgery which more especially interests him ; that he should have post-graduate experience in this particular subject and that he must keep up-to-date by periodic visits to special clinics, and arrange to have at his back a consultant from some large medical institution conveniently near. This could be done without the practitioner losing touch with other subjects, and so he will be able to maintain a broad, balanced outlook. Having so subdivided their work, the practitioners of any one district would have to mutually agree that cases of any difficulty or presenting any unusual features, should be handed over to the care of the practitioner, especially experienced in that particular disability. It is not suggested for one moment that the practitioner should assume or usurp the position of a specialist, but this proposed arrangement could, I am sure, greatly raise the standard of work done and, by facilitating the possibility of really scientific investigation, greatly add to the interest of the practitioner's life.

Lastly, we come to the consideration of the right relationship between consultant and general practitioner.

We have all heard a great deal about the so-called " Group Medicine in Practice," and later I shall be intensely interested to hear your views on this vexed question. To nail my colours to the mast, I will at once frankly admit that the principle does not appeal to me. This may be because I am somewhat of an individualist and something more of a believer in personality—I confess I regard group medicine much as I regard shopping at a stores—emporiums, I believe, they like to be called. Directly I enter one of these I feel lost, I lose my personality, I lose my way and I even forget amongst their many distrac-

tions quite why I have come, whether for a complete outfit or merely for a collar stud. No one knows me and I know no one, so, like one of Dante's lost souls, I wander round and round the intermediate circles, finally to creep out without buying anything.

But, to desert metaphor—so often a dangerous and misguiding method of argument—Dr. Adolphe Abrahams last year read a paper on " Group Medicine in Practice " before the Westminster Division of the B.M.A., and a most able and persuasive counsel he proves to be for this system of top to toe overhaul by experts. But, in spite of his able advocacy, the method seems to me liable to involve much unnecessary investigation.

In the large majority of cases the general practitioner, if he be worth his salt, should be able to have eliminated most of the unessential and to have narrowed down the issue to one or two possibilities, before he calls in expert advice, and so have been able to save his patient the worry, anxiety, and expense of redundant examinations. Moreover, the group, however scientifically constructed as outlined by Dr. Abrahams, consisting, as he puts it, of an inner circle, composed of members who see every patient as a routine procedure, and an outer circle of regional specialists—terms suggestive of a system of metropolitan medicine—is more than likely to contain certain members in its magic circles who will not be acceptable to the general practitioner in charge of the case. I shall ever be a firm believer in the principle of each practitioner finding out for himself the specialist he trusts and likes, one that comes to know you so well that he will not hesitate to criticise your diagnosis without fear of offending you or losing your friendship, and one from whom you are only too ready to welcome criticism and correction. I shall always find it easier to have confidence in a colleague than a ready made clinic.

Touching this question of selecting a consultant. When such an occasion arrives, you will often find your patient's relatives armed with a list of names, generally titled names, supplied to them by well-meaning, but ill-informed friends. At such times don't ride your high horse, but quietly ask them whether they want a consultant to really help you in the understanding and treatment of the case or merely to appease their friends, and you will generally find they will see reason and allow you to have your own choice in the matter.

We now come to a very " vital "—the word is used by Dr. Abrahams—feature in team practice, The Conference, at which all the members of the team who have seen the patient are present and at which each member is compelled to view his opinion in the light of that of his colleagues. In this way, says Dr. Abrahams, the maximum value of his examination is educed. Believe me, to be contentious is the last thing I wish to be, but I cannot help feeling that this feature of team work is more vulnerable than vital.

It is a familiar truism that the ideal committee consists of one or at most two members. When more are gathered together there is only too often engendered a spirit of inhibition. The individual member of the conference, for fear of appearing too self assertive or aggressive, so trims his opinion to avoid treading on his colleague's corns that he becomes like Euclid's definition of a point. If too many cooks can spoil such a relatively simple thing as a broth, need we be surprised that too many doctors can dish such a complex thing as a diagnosis.

To consider for a moment the less elaborate consultation at a specialist's house. I think it is most important that, whenever possible, the general practitioner should be present. The part he has to play may often appear to be a very passive one, holding a watching brief, but in reality he is, or should be, holding the scales of diagnostic justice in his hands, and although he doesn't know exactly what is the matter with his patient, he should be able to appreciate whether the pronouncement of the oracle is true or false, and, remember, ten minutes conversation over a case is often worth more than ten pages of correspondence.

The same applies to operators. I recall over 25 years ago, when I was House Surgeon to Sir Arbuthnot Lane—Willie, as we called him in those days—going out with him to assist at the, then, very fashionable operation of nephropexy. The family physician was there, as I remember him, very fat and rather fussy. I, in my simple superiority—we residents were very apt to regard all general practitioners as " old duffers," I wonder whether it is still so—asked Lane what part he was to be allowed to play in the drama. " Oh, put him into a corner and let him hold a towel," was the reply. Now, I realise that the fat little man held much more than a towel ; in reality he held his patient's future health in his hands. He was there to see exactly what was done and how well or ill it was done. As a result he was in a far better and more assured position to advise his patient as regards the after treatment and outcome of the operation. And now that time has passed and I've grown fat, though I hope not too fussy, it is my part to hold the towel, but I trust I do so without any resentment towards the younger and more alert assistant. For I know that, whilst he plays a more active part, mine is none the less essential to my patient's future welfare.

In sharp contrast to what I consider to be the ideal consultation where two medical men meet in all sincerity and simplicity to pool their knowledge in order to save a fellow creature's health or maybe his life, we have that much more elaborate affair so well described by a master of satire Hilaire Belloc, in his novel *Emanuel Burden*.

I will read you the passage :—

" The three learned gentlemen proceeded to the bedroom, where they found Mr. Burden sunk in a refreshing sleep ; gently waked by the soft gesture of the nurse who was in attendance his condition, especially as regards his heart, lungs and liver was examined with all the marvellous skill that modern science has achieved, and when the principal features of his case had been accurately ascertained the doctors retired into a neighbouring dressing room to hold a short consultation, which should decide the treatment of their patient.

" In the opinion of Sir Nathan—who spoke first—the trouble was cardiac, or at the very least arterial. He cited Pilkington's note and quoted several exceptional things of the sort which had come within his own experience—notably his several exceptional things of the sort which had come within his own experience—notably his attendance upon the hereditary Grand Duke of Lowenburg.

" With this conclusion Dr. Cayley found himself unable to agree. He saw in the whole matter a very simple lesion in the biliary ducts, a view wherein he was supported by Dr. or, rather, Mr. Gamble, the great specialist ; the latter was, however, unable to avoid a reference to his favourite topic of the greater lymphatics.

" When an agreement had been reached they all three re-entered the room. Dr. Cayley, as the doyen of the faculty, took it upon himself to reassure Mr. Burden. In an inaudible tone, such as the presence of an invalid demands, he gave instructions to the nurse that the patient should be kept quiet. For diet they prescribed the viands and beverages which Mr. Burden was in the habit of consuming, and so passed downstairs into the hall, where the envelopes presented to them by a servant contained the customary fees, and after many warm hopes for a swift recovery of the patient they took their leave and left the house to convalescence."

I expect criticism, in the discussion which, I trust, is to follow, for many of the unscientific utterances I have made in this short paper, but personally I don't believe medicine will ever be an exact science—not unless we become a race of Robots, which Heaven forbid ! Until then medicine must ever remain a fascinating combination of art and science—the appreciation of which no member of our profession has a better opportunity of enjoying than work-a-day-and-night general practitioner.

The Royal Naval Medical and Dental Services.

SERVICE in the Royal Navy is particularly advantageous to newly-qualified unmarried men. Ample facilities for golf, tennis and rugger and soccer are offered. The cost of living in the Navy is low, and at sea such commodities as alcohol and tobacco are duty free. A private income is unnecessary, as rates of pay are ample for a single man. There is no marriage allowance, however, and the married officer is placed in a less desirable position.

Vacancies in these Services are filled by the successful candidates at the competitive entrance examination, held twice yearly. Candidates must not be under 21 nor over 28 years of age on the first day of the entrance examination. They must be of pure European descent, and the sons of either natural born or naturalised British subjects.

Candidates must not suffer from any constitutional or mental disease that would interfere with the efficient discharge of their duties in any climate.

Candidates who have served in the Officers' Training Corps, and who hold the Certificates laid down in the regulations of that corps, will be credited at the entrance examination with the following additional marks :—

Candidates holding Certificate " A " will receive 3 per cent., and those holding Certificates " A " and " B " 6 per cent., of the maximum number of marks allotted.

Candidates who have served in the Royal Navy, Army or Air Force during the war, either as officers or men, will be accorded 3 per cent. if their services were under 1 year, and 6 per cent. of the maximum marks if over that period.

A successful candidate at the entrance examination will be appointed Acting Surgeon-Lieutenant in the Royal Navy, and will be required to pass through such courses as the Admiralty may decide.

After these courses the Acting Surgeon-Lieutenant will be examined, and after he has passed will be given a commission in the Royal Navy

as Surgeon-Lieutenant. A gold medal, a silver medal and certain other prizes are awarded in connection with these examinations.

A candidate successful at the entrance examination who either holds, or is about to hold, an appointment in a recognised civil hospital will be allowed to hold that appointment, provided that the period of such service does not exceed one year after entry into the Royal Navy.

An officer for the Medical Service who has held a resident appointment at a recognised civil hospital for not less than one year will be eligible to have his seniority ante-dated by not more than a year.

An officer for the Dental Service who before his entry has held a whole-time hospital dental appointment after becoming a qualified practitioner will be eligible to have his seniority ante-dated by not more than six months.

Ample time for post-graduate reading is available and officers attend post-graduate courses from time to time. Sixty specialist appointments with extra pay are held in the Medical Service by officers after a six months' course in their speciality at a civil hospital.

These appointments are :—

Anæsthetist	Bacteriology
Ophthalmic	Pathology
Ear and Throat	Medicine
Genito-Urinary and Venereal	Surgery
Physical Training	Radiology
Hygiene	

Candidates enter for Short Service for a minimum period of three years, with the option to continue for a further year if their services are required.

Officers will be granted an equipment allowance of £50, payable on joining the Service. A Short Service Surgeon-Lieutenant may transfer to the Permanent Service after six months, subject to a satisfactory report from his senior officer and on application to the Secretary of the Admiralty.

The next Examination for Dental Officers will be held at Guy's on March 21st, 1928, when five appointments will be offered for competition.

It is understood that these will be the last appointments offered for some time, as the complement of the Service is being made up.

Entry Forms should be sent in to :—

MEDICAL DIRECTOR-GENERAL OF THE NAVY,
Admiralty,
Queen Anne's Chambers,
Tothill Street, S.W.1.

not later than March 14th, 1928.

RATES OF FULL PAY

Medical

	Daily Rate *Standard* £ s. d.	*Current* £ s. d.
Surg.-Lieutenant on entry	1 4 0	1 2 6
After 3 years	1 9 0	1 7 4
Surg.-Lieut.-Commander on promotion	1 15 0	1 12 10
After 3 years	1 17 0	1 14 10
Surg.-Commander on promotion	2 5 0	2 2 4
After 3 years	2 9 0	2 6 0
„ 6 „	2 13 0	2 9 10
„ 9 „	2 17 0	2 13 6
Surg.-Rear Admiral	5 5 0	4 18 8
Surg.-Lieut. (Short Service)	1 6 6	1 4 10

Dental

Surg.-Lieut. (D.) on entry	1 2 0	1 0 8
After 3 years	1 7 0	1 5 4
Surg.-Lieut. Commander (D.) on promotion, after 6 years	1 12 6	1 10 6
Surg.-Commander (D.) on promotion	2 2 6	2 0 0
After 3 years	2 6 8	2 3 8
„ 6 „	2 10 6	2 7 6
„ 9 „	2 14 6	2 11 2
Surg.-Captain(D) on promotion	3 2 6	2 18 10
After 3 years	3 7 6	3 3 6
„ 6 „	3 12 6	3 8 2
„ 9 „	3 17 6	3 12 10

PENSIONS

Dental officers are not promoted above the rank of Surgeon-Captain.

Officers retiring below the age of 45 receive gratuities in lieu of pension on the following scale :—

Surgeon—	£	s.	d.	
Vice-Admiral	1,123	0	0	on vacating office.
Rear-Admiral	950	0	0	at age of 60.
Captain	846	0	0	at age of 55.
Commander	564	0	0	at age of 50.
Lieut.-Commander / Lieut.	423	0	0	at age of 45.

	£	s.	d.
After 4 year's service	500	0	0
„ 8 „	1,000	0	0
„ 12 „	1,500	0	0
„ 18 „	2,250	0	0

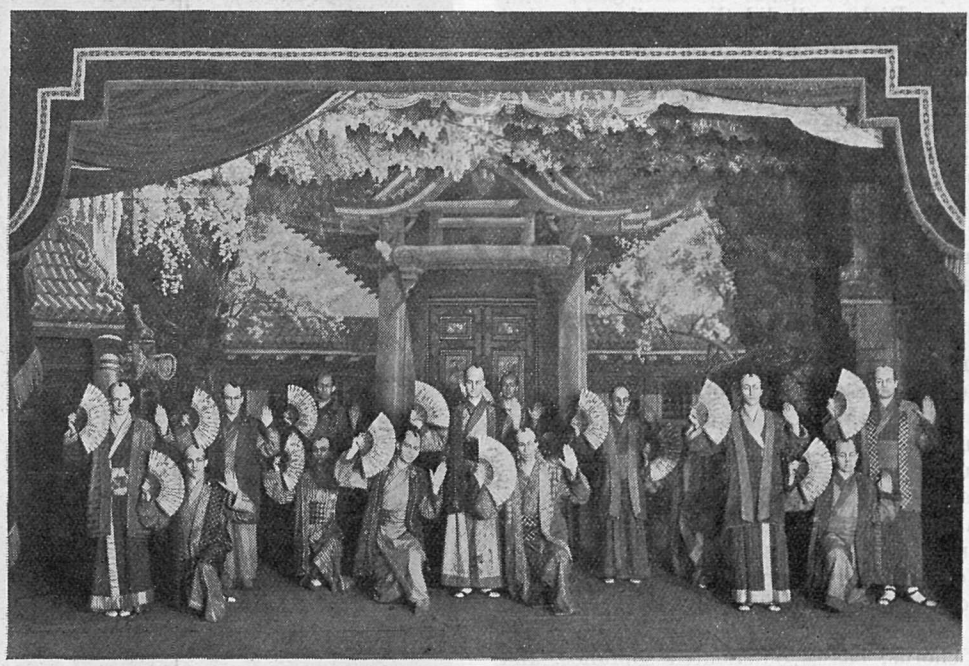
The cost of living is approximately £120 a year, including mess entry fees, laundry, mess subscription, servant's pay, tobacco, wines, papers and all extras. So that officers so inclined can save ample funds for the purchase of a practice when they retire.

Most dental officers serve in shore stations, and their surgeries are well equipped with modern instruments and fittings.

"The Mikado."

Performed by the Guy's Hospital Musical Society, at the Guildhall School of Music, January 18th—21st, 1928.

FOR some weeks past the peace of my room in the College has been violated by sundry groans and shrieks proceeding from the Massage Block. On inquiring of my own particular junior pro. as to the cause of this, I was coldly informed that the Musical Society was rehearsing *The Mikado*, and that she herself contributed to the general gaiety—or otherwise—as a Lady of Japan; also that I was expected to escort her aunt to the actual performance.



GENTLEMEN OF JAPAN. *Photo by Fradelle & Young.*

So, the other night, Auntie and I betook ourselves to the Guildhall School of Music, where we found ourselves in the stalls, surrounded by the élite of Bermondsey and Harley Street, both of us in some fear lest my pro. should neglect to put her best foot forward, or should not show her coloratura—or whatever it is—to the best advantage. Promptly at 7.45 p.m. Mr. Templeman's tuft of hair rose from the orchestra like Venus from the waves, and we rose to a pleasing rendering of *The King*, Auntie remarking that Sullivan had *such* an ear for a good tune.

The orchestra made a brave show with the overture. We believe Mr. Baird did some patient research on the bass-al metabolism of the French horn. Up went the curtain, disclosing a crowd of fellows in dressing gowns and Curtis belts, who said they were gentlemen of Japan. Auntie said it was obvious that they weren't, but I don't know whether she was referring to gentlemen or to Japan. Into this gathering burst a young man with presentable legs, Hankey-Poo by name, who told us that he was a wandering minstrel. He then gave us samples of his wares in a silvery tenor, and stimulated the chorus to the Japanese equivalent of a hornpipe. As a sort of retaliation a fan-waving enthusiast named Pish-Tush expounded the Japanese law in a cheerful manner, and then another Jap came in. He was vastly superior to the others both in dignity and waist measurement, and he showed us, in a trio with the other two gentlemen, that his many duties included that of Lord High—or low—Bass of the Musical Society. Then followed the state arrival of Ko-Ko, the Lord High Executioner, a fearful, frightful, frantic little fellow. Auntie was captivated by him at

once—she said you could see he was a surgeon from the way he handled his sword. He sang with marvellous facial mobility about the people who'd never be missed. It was only tact and Mr. Eason in the orchestra that made him omit some Guy's nuisances.

Just as I was getting restive about my junior pro. the ladies arrived from school, such fascinating little dears with rosebud lips and blooming cheeks and all the vim and zest that two ounces of Madeira imports—perhaps not very Japanese, but full of girlish glee. Then that charming little minx, Yum-Yum, with her companions, Pitti-Sing and Peep-Bo, made a delightful thing of *Three Little Maids*. Ko-Ko entering kissed Yum-Yum with unreciprocated enthusiasm. This sobered the ladies and in the gay *Tra-la-la* chorus I thought I heard Leffleresque whisperings of "Smile, girls," from the wings. Right well did they smile after that, and performed miraculous evolutions with the same happy nonchalance with which they approach Matron's office.

Hankey-Poo took advantage of his duet with Yum-Yum to get in a lot more kissing; in fact, their pleasure in it was so obvious that we felt we must encore them. Auntie wanted to know if they *really* kissed, but I didn't encourage such idle curiosity. Back came Ko-Ko complaining that he must execute someone—this was only an excuse for another trio—and then when Ko-Ko found that Hankey-Poo was rather morning-afterish he arranged that he should be admitted in a month for cervical section. The full chorus, feeling perhaps that they had been out of things too long, burst into the scene with joyous shout and merry cheer until rudely interrupted by Katisha, an elderly female, who claimed Hankey-Poo in rich contralto tones and with dramatic Elephant and Castle gestures. The rest of the throng denounced everyone by turns; Mr. Templeman's chivalry caused him to urge the orchestra to still greater efforts, chorus countered and succeeded chorus, basses outshouted sopranos, and, just as we had got thoroughly worked up, the curtain came down.

Limp with emotion I piloted Auntie to the back of the stage in quest of coffee—or whatever else was going. There my pro., flushed with paint and success, told us that this was the first time Guy's had done a big show without outside help in the vocal department. We were duly impressed, and, having refreshed ourselves and murmured polite nothings about the pre-eminence of Sullivan, wandered back to the stalls.

The opening chorus of the second act backed up our opinion of Sullivan; it was a pleasing piece of music, gracefully performed. Yum-Yum then sang her *Sun and I* song extremely well, and was deservedly encored. The *Madrigal* followed, and proved to be one of the best things of the evening. We were just beginning—metaphorically—to look

Ko-Ko (Mr. S. L. Clarke). *Photo by Fradelle & Young.*

down our noses at Gilbert when Ko-Ko restored our faith in him with *Here's a How-de-do*, which went with great éclat. We marvelled at Ko-Ko's antics, and Auntie said she thought it must be a skit on Sister ———, who was a Sister when she was a nurse at Guy's, and is there still. However!

Then the Mikado entered, a grim and gruesome potentate, who sent shivers through us with his ghastly laugh, which sounded just like the ward radiator when it went wrong a few nights ago. We liked his song so much that we made him sing it over and over again, and each time he grew more fiendish, so that Auntie quite pitied the poor Japs, who shrunk away uncertain whether to laugh or to cry or pick out their relatives among the audience.

Then there was lots more jolly singing and fooling; Ko-Ko got funnier and funnier in *The Flowers that Bloom in the Spring* and *Tit-Willow*, and we grew weaker and weaker in proportion, so that we were grateful for a little tragic relief from Katisha. Back again came the chorus, fresh and sonorous, to bid us farewell, and so we departed, well satisfied with ourselves and Japan and Guy's and the world generally.

THE MIKADO (Mr. L. Ride) and KATISHA (Miss Barrett). *Photo by Daily Sketch.*

Looking at our programme in the Hop Exchange tram, we discovered that the fearsome Mikado was none other than our usually mild-mannered Mr. Ride—a magnificent performance that need not fear comparison with professional standards. Miss Barrett was Katisha; she sang beautifully, acted with great vigour, and did her best at the difficult task of looking ugly. Ko-Ko was Mr. Clarke; his quaint humour tickled us greatly, and his semi-pathetic interpretation of the little man who couldn't kill anything completely won our hearts. So did Miss Dyke as Yum-Yum; her singing, especially in *The Sun and I* and in the *Madrigal*, was most pleasing, and her stage presence was delightful. To her winsome companions, Miss Bentham lent a sweet voice, and Miss Lewis a taking Welsh accent. Mr. Hankey, as Nanki-Poo, exercised his lyric tenor and his well-known charm of manner. Mr. Barber created much merriment by his portliness of bearing and of speech, and Mr. Chamberlain sang *Our Great Mikado* in a bright and spirited fashion. Mr. Lane sang to excellent effect in the *Madrigal*. The chorus was excellent in song and action—marvellous to relate one could hear their words. The men were, as occasion demanded, impassive or impassioned, and the girls, especially my junior pro., were charming all the time. The orchestra maintained an exceedingly high standard throughout, and was extremely well balanced and alive. Where everybody played so well it would be unfair—and impossible—to pick out individual excellences, and I will not attempt to do so.

One of the greatest factors in the success of the evening was Mr. "Klebs" Leffler, the producer. He remained invisible and all but inaudible—though "Smile, girls" gave him away—and we were thankful for the cheery spirit which he infused into the show. Mr. Templeman, the musical

THE CASTE. *Photo by Daily Sketch*

director, was again invaluable, and the Musical Society has much for which to thank him. We were afterwards told by several members of the chorus that it had been, as ever, extremely hard to arrange times of rehearsal, but both Mr. Leffler and Mr. Templeman turned up every time and gave endless thought and trouble to making the performance a success, and were always helpful "behind the scenes." Taken all round, *The Mikado* was one of Guy's best shows, and we hope all who took part in it enjoyed it as much as we did. The Society is to be congratulated on a most excellent performance.

FAGSWHIST.

Transformation of Energy

A.D. 2027.

QUOTH a weary old man of Bangor,
"Existence to me is a bore;
Give me decent sepulture,
Not the peck of a vulture."
With that he collapsed on the floor.

Quoth his heir, "This cadaver scarce cold
To me is worth riches untold.
My allotment hath need
Of nitrogenous feed.
Place this corpse 'neath ten inches of mould."

So this weary old man of Bangor
Turned to tubers and greenstuffs galore.
Of vitamin B,
Likewise C, D, E,
Was gathered exceeding great store.

E. G.

If We Could Advertise.

III.—THE OBSTETRICIAN.

"I can assure you, madam, you will have no trouble at all with your child this time. Just sign this form and I will see that my colleague, Dr. Oss, gives it his personal attention. These testimonials, madam, from most of the titled people in London speak for themselves and fully justify the marvellous ability of Dr. Oss. The terms are £2 2s. booking fee and the remainder at birth of the child, money returned in full should no child be born alive; in fact, madam, our motto is 'no child, no pay.'"

A Case of Duodenal Obstruction.

THIS patient, J. C., a woman, aged 63, was admitted to Clinical on October 19th, 1927, for abdominal pain and vomiting.

Her history was as follows. On February 6th, 1927, while enjoying perfectly good health, she had suddenly collapsed with an attack of pain in the right hypochondrium and epigastrium. The pain continued to be severe for two days, and during this time she vomited frequently. She was not jaundiced. The pain then continued up to the time of admission as a dull ache, which had become considerably worse during the six weeks immediately preceding admission, during which time also she had vomited frequently, the vomit consisting of food recently taken and sometimes almost unchanged. The pain was constant, bore no relation to the taking of food and drink, and was unrelieved by anything the patient had tried. She had lost some weight, she said, during the previous year. She had never to her knowledge been jaundiced. She had all her life been rather constipated.

On admission the patient was thin, but not obviously wasted. Her pulse rate was 60, her temperature 98.4° and her respiration rate 20. Her cardio-vascular, respiratory, urogenital and central nervous systems appeared normal.

Her abdomen was distended, but evidence of free fluid was lacking. Visible peristalsis was well marked in her stomach, the greater curvature of which was low and very well defined. In the region of the pylorus, and stretching into the right hypochondrium nearly as far as the costal margin, was palpable a fairly hard irregular sausage-shaped tumour, about 2.5 inches transversely and 1.5 inches vertically, which was resonant and was tender on deep pressure. The lower border of the liver, apparently quite regular and smooth, was palpable above and distinct from the tumour. The patient said she had herself first noticed this lump a year previously, and that it had been increasing in size. However, it had not troubled her at all, and she did not connect it in any way with her more recent history, though it lay over the site of her pain.

Two days after admission she vomited one hour after dinner, bringing up about half-a-pint of food almost unchanged. No obvious blood was present in the vomit.

Her Wasserman was negative. An X-ray of her alimentary tract showed œsophagus normal, stomach large, the greater curvature being about 4 inches below the iliac crests and containing much fluid; peristalsis very sluggish and not much food seen to leave, although the duodenal cap was filled; apparently a filling defect on the greater curvature just on the stomach side of the pylorus. Six hours later the stomach was still filled with barium and very little appeared to have left. Chemical examination of the fæces showed some altered blood present.

By October 29th the patient was vomiting large quantities of stomach contents after every meal, and was obviously going downhill rapidly. So, surgical opinion was called in, and on October 31st a laparotomy was performed.

At operation there was found a large hard mass, apparently in the head of the pancreas, involving the duodenum and pressing on the pylorus. Several enlarged mesenteric glands were found, and the gall bladder felt very hard. A provisional diagnosis of carcinoma of the head of the pancreas was made, and an anterior gastro-jejunostomy was performed. The patient never recovered from the shock of operation, and died the same night.

At autopsy a mass—on section a scirrhous carcinoma, it was impossible to tell the sight of origin—was found, in which the transverse colon, the duodenum and the head of the pancreas were stuck together. The pylorus was patent and not involved in the mass which, macroscopically, appeared to be inflammatory. The gall bladder was uniformly thickened and contained one large calculus. The common bile duct was dilated, though no obstruction was found. The body of the pancreas was macroscopically quite normal.

It was unfortunate that, on account of the large amount of fibrous tissue present in the growth, the pathologists were unable to place the site of origin of the scirrhous carcinoma. Presumably, if it was a primary growth—and there was no evidence of growth elsewhere in the body—it must have been in either (1) the gall bladder, (2) bile duct, (3) duodenum, (4) transverse colon, or (5) head of pancreas.

To deal with these possibilities in order: The gall bladder, though chronically inflamed, showed no sign of malignancy; the mucous linings of bile duct, duodenum and transverse colon were all free from direct involvement in the growth. This leaves the head of the pancreas as the probable site. But, if this was so, it is curious that the body of the pancreas should be normal, and that there should be complete absence of jaundice, though the dilated bile duct certainly suggested obstruction to flow of bile at some time.

I am indebted to Dr. Beddard for permission to publish this case.

O. P.

A Case of Conjoined Twins.

THE following case, owing to the rarity of the condition, appears to be worth a brief notice.

Twin female infants were born at Derby on December 10th, 1927, and were admitted into Guy's a week later. The two heads were united at the vertex (Fig. 1), the bodies pointing in opposite directions.

FIG. 1

There was a history of the mother whilst pregnant falling down a few stairs, and it is reported that the mother's grandmother gave birth to stillborn Siamese twins.

The larger infant was born first, being a breech presentation. This was the stronger (Fig. 2) and at the end of the week appeared to be doing well in contrast to the other, who was obviously wasting and whose survival seemed unlikely.

A distinct sulcus could be felt running round and dividing the two skulls, and the X-ray (Fig. 3) shows this separation well.

With a view to finding out whether they had separate circulatory systems, indigo-carmine was injected into the buttock of the bigger infant, and this was excreted in her urine after $1\frac{1}{2}$ hours and in the urine of the other child after $5\frac{1}{2}$ hours.

Bloodcounts, respirations, pulse and temperature showed no appreciable difference.

Pinprick applied to the forehead of one caused it to cry, whereas the other lay placid and un-

FIG. 2.

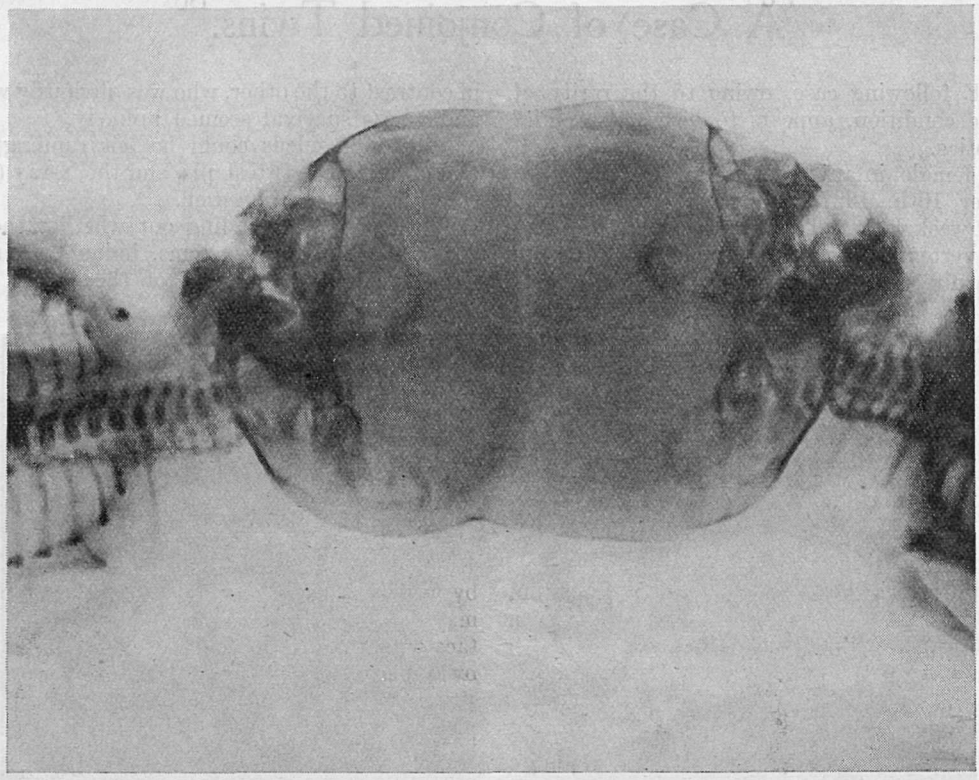


FIG. 3.

concerned (Fig. 1). Later, this test was reversed, with the same observation.

An attempt was made by Mr. Bromley to separate them on December 22nd, 1927. However, it was found that the dura mater was deficient over one side of the brain, so that the two brains lay in intimate contact, and death of both occurred, this being attributed to the sudden change of intracranial pressure resulting from the inevitable displacement in the attempt to separate them.

I am indebted to Dr. Cameron, under whose care the infants were placed, for his kind permission to publish this case. S. C.

Correspondence.

A Day of my Life in South Africa.

DEAR SIR,—Although a country practice in the O.F.S. is fairly placid, occasionally one gets a heavy day such as follows :—

Got up at 5 a.m., left for a farm six miles from town at about 6.30 a.m. in order to do a post-mortem examination on a young woman who had been shot under suspicious circumstances. Spent three hours over the job, arrived back home at 10.30 a.m. Left again about half-an-hour later for a farm 30 miles from town to inspect body of a woman who had died suddenly. No autopsy necessary as I knew the party ; arrived home again at 4.30 p.m. Left again about 5 p.m. to attend a confinement on a farm about 18 miles from town ; was just in time to deliver the placenta. On return journey had a puncture and had to put on spare wheel. Lost the road and went about four miles out of our way, eventually landing home at 10.30 p.m. Total mileage about 112 ; drove myself all the way.

Yours truly,

WM. A. CARDEN.

Rugby Football.

DEAR SIR,—With reference to my letter under the above heading, which appeared in the last issue of the GAZETTE, I would point out that it would appear due to a typist's error in my letter to you the figures 14 should read **13** in the following paragraph :—

"Unfortunately the severe weather at the end of the year caused the last three matches to be abandoned, and therefore only 13—*not* **14**—out of the 16 down to be played took place."

Yours truly,

ROY C. HOLLOWAY.

The Bungalow,
Edith Avenue,
Peacehaven, Sussex.
January 18th, 1928.

The Inter-Hospital Boxing Competition.

DEAR SIR,—The Inter-Hospital Boxing Competition has been fixed this year for March 5th and 6th. Will members of the team please keep this date in mind and turn up as regularly as possible?

It is hoped also to hold a Novices' Competition on February 21st. A list will be placed in the Colonnade for the names of those desiring to enter, anyone being eligible who has not previously represented the Hospital.

Yours faithfully,

R. N. C. SMITH,
Hon. Sec., G.H.B.C.

Guy's Hospital, S.E.1.
January 9th, 1928.

Reviews.

Infections of the Hand. By LIONEL R. FIFIELD, F.R.C.S. 1st Edition. Published by Messrs. H. K. Lewis & Co., Ltd. *Price 9s.*

THIS book should fill a rather neglected aspect of the student's surgical curriculum. One has only to have passed through the surgical out-patients' departments of a large hospital to have seen the treatment meted out to septic conditions of the hand and fingers to realise the enormous amount of ignorance which exists, among house surgeons as well as among dressers, in the treatment of such important conditions as whitlow, erysipelas and infections of the palm. It is therefore with a feeling of great relief that this knowledge can now be obtained in this small and simple book, for which Mr. Fifield merits great praise. In endeavouring to supply this gap in surgical teaching the author has gone to great trouble in obtaining accuracy for the statements he makes by means of dissections, the study of serial cross-sections, the injection of the synovial and cellular tissue spaces and their further demonstration by dissection and radiography and by means of careful observation clinically and at operation.

Several points in the general anatomy of the hand would appear to be of importance. The subcutaneous tissue is almost absent opposite the creases of the palm, and hence the great liability of punctured wounds of the creases, especially of the interphalangeal ones, to be followed by primary thecal whitlow. The fibres of the theca—fibrous sheath—of the tendons are in the main transverse in direction, but in front of the joints they are oblique, thinner and pierced by vessels. Here the lining synovial membrane may readily herniate through, thus lying in contact with the skin and so being readily punctured by a perforating wound. The much greater destruction of the proximal end of the middle phalanx compared with that which takes place in the head of the proximal phalanx, which occurs in a suppurative arthritis secondary to suppurative teno-synovitis, is explained by the facts that the base of the former is in closer relationship to the flexor tendons than the latter, which is covered anteriorly by the tough glenoid ligament, and is also more vascular, the base of the phalanx being epiphyseal.

The author next deals with infections of the fingers, and this includes an excellent account of the various varieties of whitlow and their respective treatment. The incision recommended for the terminal phalanx is a horseshoe shaped incision, parallel to the nail and anterior to it. The extent of the infection determines whether a unilateral limb or the complete incision be made. Four main advantages are stated to be obtained by the horseshoe over the straight anterior incision. The scar is removed from the site of pressure, the delicate anterior nerve plexus is untouched, the fibrous septa radiating from the phalanx to the skin are divided, thus properly relieving the tension in the "closed compartment," and, lastly, the possibility of incising beyond the base of the phalanx and infecting the tendon sheath is obviated.

Owing to the peculiar anatomical arrangement of the terminal phalanx, early diagnosis of subcutaneous whitlow in this situation is of the

greatest importance and treatment urgent. Even if it be impossible to diagnose the presence of pus, the author urges that, as long as the terminal phalanx is hard and tender, it should be freely incised in a horseshoe manner.

The complications of whitlow are discussed at some length, those of suppurative arthritis, necrosis of bone and extension of infection into the palm being especially considered. Extension of inflammation from the tendon sheath to the proximal interphalangeal joint—by far the commonest example of suppurative arthritis in the hand—follows an osteomyelitis of the proximal end of the middle phalanx. The treatment of this complication is discussed, an amputation through the middle phalanx being favoured.

The author next directs his attention to palmar infections and their complications. These he divides into suprafascial and subfascial infections, of which the latter are subdivided into those of the ulnar bursa, the radial bursa, the middle palmar space, the thenar space, the hypothenar space and of the distal palmar hour-glass abscess. These are all described in turn with their appropriate treatments. Osteomyelitis and suppurative arthritis are next described more fully, and an excellent table of the differential diagnosis of suppurative arthritis of the wrist is included in this chapter.

Lymphatic infections, infections of the dorsum, prognosis and treatment in general, occupy the rest of the book.

Such an important subject as infections of the hand should always merit considerable study and thought, as successful treatment may mean such a lot to the after history of the patient. The hands, though morphologically the least advanced, have actually remained the most important members of the human limbs, and a correct appreciation of the many ailments to which they are liable, with excellent methods of treatment, can be obtained in this book, which combines sound commonsense with a vast clinical experience.

Dental Surgery. By J. L. Dudley Buxton, L.D.S. Published by Messrs. E. & S. Livingstone. *Price 7s. 6d.*

THIS little volume, the eighth of a series on "Outlines of Dental Science," will be found of use both to student and practitioner.

The author admits that many operations have been omitted, but these will be found in the volume on *Practical Dental Surgery.* Again, in order to understand the ætiology of disease, there is a volume on *Dental Pathology.*

The volume under review is written in such a way that the text can be readily understood, and, moreover, the reader's interest is maintained to the end.

The chapters on (*a*) disorders associated with the eruption of the third lower molar and (*b*) Hæmorrhage are of particular interest.

The book contains much valuable information in small compass.

The Midwife's Pronouncing Dictionary and Encyclopædia. By Henry Robinson, M.D. Published by Messrs. Faber & Gwyer (Scientific Press). *Price 3s.*

THIS is a valuable little book, which no practising midwife should be without. It gives lucid explanations of technical terms, detailed descriptions of treatments and helpful illustrations.

All this in a small book which can easily be carried in the pocket for handy reference.

It is to be highly recommended to any pupil midwife, and would be a welcome addition to the library of any midwifery school.

Sport.

Rugby.

Guy's *v.* Birkenhead Park.

AT Honor Oak Park on Saturday, January 14th, the Hospital defeated Birkenhead Park by 5 tries (15 points) to a goal and a penalty goal (8 points). In doing so they gave one of the finest exhibitions seen at the ground for some time, and thoroughly deserved the applause given to them throughout the match. The performance was all the more creditable when one considers the state of the ground, which, after the recent rains, was very sticky and muddy.

The team played as a well-trained combination, following up and supporting each other splendidly.

It would be difficult to pick out any player in particular, although there were several factors which contributed to the Hospital's success, namely, the sure hooking of W. H. Myburgh, the excellent form shown by Garland, the hard shoving by the forwards and the good handling of the greasy ball by the backs.

In fact, the display given by the Hospital XV was all the more a surprise as at the last moment Preen was unable to play and the back division had to be rearranged. Ryan took Preen's place,

Lewis was moved from the left wing to right centre, and Mostert completed the line by occupying the place vacated by Lewis.

On the other hand, the visitors were practically at full strength, and included in their ranks were several Internationals, of whom J. R. Paterson and J. V. Richardson were in excellent form.

It was very pleasing to see W. H. Taylor, the old Guy's forward and Trial Cap, taking the flag as touch judge for the Park.

Quite a feature of the match was the perfect understanding shown between the halves, Garland and Ryan. The former had quite a field day and capped a glorious afternoon's work with a magnificent individualist try in which he beat five men, whilst Ryan gave his best display of the season. His acceptances of Garland's passes were perfect, his resolute running, fearless tackling and the way he opened up the game proved a constant source of trouble to the visitors.

The kicking of both sides was well nigh perfect —the brothers Spence and Ryan for Guy's and Richardson and Green for the Park were all prominent in finding touch with long and well-directed shots.

Guy's opened against the wind and in the first minute our visitors were penalised, but the shot was charged down. A fine forward rush carried play into the Park's 25, but Guy's were sent back from a penalty. Guy's returned to the attack through good touch finding by F. H. B. Spence and J. Durr. From a line-out Durr received and, smartly passing to Garland, enabled the latter to break through. When challenged the ball was sent to Ryan and Lewis, for the latter to score in the corner.

Immediately after the kick-off a thrilling round of passing between our backs nearly brought another score, but a forward pass on the goal line nullified the effort.

After Robinson had tackled Wainwright, Ryan and then P. D. B. Spence found touch with hefty kicks.

Guy's set up a hot pressure, and then followed a wonderful effort by Garland, who broke away near mid-field, handed off or dodged at least five opponents and, facing the full back on the goal line, passed to Ryan, who scored easily.

Playing in fearless style and as a smooth working machine, Guy's continued to press, and Mostert, intercepting a pass from Taylor to Galloway, made a lot of ground before passing to Spence. The latter short punted, but Green secured a mark.

Immediately after, passing and interpassing between Garland and Ryan resulted in the former crossing the visitors' line for the third time.

From the kick-off Garland was all but over again, and was only brought down near the line. A sudden attack by the Park forwards saw P. D. B. Spence distinguish himself by clearing very cleverly—throughout the game his positioning and kicking were excellent.

Just before half-time a movement initiated by Ryan and Lewis saw Mostert again cross the line, to give Guy's the lead by 12–0. None of the tries were converted, but all were taken at difficult angles.

Following the breather Birkenhead Park went off in fine style and through a mistake in the defence Wild secured and dashed over for a try between the posts, which Richardson easily converted.

The Park forwards were now putting plenty of spirit into their game, and another fine rush looked dangerous, but P. D. B. Spence cleared. A penalty to Birkenhead Park did not prove beneficial, as F. H. B. Spence secured and found touch with a good kick.

From the line-out Ryan made a brilliant run, and was only brought down near the line. Durr followed soon after with a strong burst, but was thrown into touch near the corner flag.

A fine breakaway by Richardson and Wainwright carried play to the Guy's 25. When a score appeared certain Lewis saved a delicate situation. The Park followed up and Guy's were penalised in their own 25. Richardson, with a fine kick, landed a perfect goal. This brought the scores 12–8.

The excitement was now intense, and the supporters of the Park, of whom there were many, were worked up to fever pitch.

However, the Guy's side, after surviving the recovery of Birkenhead, settled down to exert great pressure. Time after time they attacked and a score seemed certain, but the defence of the visitors held out until Garland scored by far the best try of the afternoon and dispelled any doubt amongst the Guy's supporters.

It was truly characteristic of Garland. Securing the ball from the scrum in the visitors' 25, he wriggled his way in zig-zag fashion through a crowd of players and actually handed off three of their backs before he side-stepped the full back in scoring the try.

No further scoring resulted, but just before no-side was sounded, Green, the Park's full back, made a splendid run through our defence, and was only prevented from scoring by the splendid tackling of P. D. B. Spence.

It was a fine match and those who were fortunate enough to witness the game will remember

it as one of the best they have seen. If we are to be treated to another game of Rugby as was seen on this occasion let us hope that Birkenhead Park will visit us a little more often, and so cement the friendship that has existed so long between these two clubs.

Association.

Guy's *v.* Broomfield.

WITH recollections of a somewhat heavy defeat at the hands of Broomfield last season, we took the field on Saturday, January 14th, in expectation of a really tough struggle. The game, however, did not prove to be as hard as was expected, and after a very even and enjoyable game we ran out as victors by 3–2.

The ground was soft and very sticky, and as a result of this the game was not very fast, and control of the ball was rendered much more difficult. In spite of these obstacles the team played very well together, and it seems now to have realised that combined team work as opposed to individualism gives by far the most satisfactory results.

From the start of the game Broomfield attacked strongly, and for some time maintained considerable pressure on our goal. Soon, however, the ball was swung about very much more, and we did our fair share of attacking. A noticeable feature during this period was the fact that our wing men gained ground and saved time by swinging the ball into the middle of the field as soon as possible.

Our opponents were the first to score, Evans, in goal, who played a very good game, just failing to hold a low shot.

On two occasions following this Guy's all but scored, and just before half time we equalised from a very good shot by Small, who, despite the recurrence of some leg trouble early on in the game, played very well.

On resuming after the interval our opponents again attacked strongly, and before very long they took the lead with a good shot from their inside left. After this reverse Guy's increased their efforts, and were soon rewarded with a second goal. Fulford, who played well at centre forward, received a pass in front of goal and scored with a ground shot just inside the post. Spurred on by this success Guy's continued attacking, and about half-way through the second half took the lead. After a run down the left wing, Small's centre was intercepted by the goalkeeper, but he failed to hold the ball, and Fulfold rushed up and put the ball in the net.

Broomfield vainly tried for an equalising goal. Our defence played well during this last phase of the game, and, with the help of the inside forwards, succeeded in keeping out our opponents, and thus, after a keen struggle, Guy's emerged as winners by the odd goal in five.

Hospital Information, etc.

Pass List.

UNIVERSITY OF LONDON

1ST EXAMINATION FOR MEDICAL DEGREES

December, 1927

J. L. Bates	I. A. Cathie
F. B. Champion	K. R. D. Coles
F. Crowther	G. J. Evans
F. G. Holman	D. H. Irish
I. Levy	J. A. W. Miller
R. M. Outfin	C. B. R. Pollock
A. G. Potts	R. G. Reid
S. B. Smith	J. Tudor

CONJOINT BOARD

D.P.H.

January, 1928

C. H. C. Toussaint

SOCIETY OF APOTHECARIES OF LONDON.

PRE-MEDICAL AND PRIMARY EXAMINATIONS

January, 1928

Anatomy

J. Rosenberg

Physiology

J. Rosenberg

THE following names were inadvertently omitted from the recently published list :—

ROYAL COLLEGE OF SURGEONS OF EDINBURGH

December, 1927

F.R.C.S., Final

A. E. Sawday

ROYAL COLLEGE OF SURGEONS OF ENGLAND

F.R.C.S.

PRIMARY EXAMINATION

December, 1927

P. V. Reading

Change of Address.

Dr. H. C. Corry Mann, 35, Harley Street, W.1, and 25, Harrington Gardens, South Kensington. 'Phone: Kensington 1237.

Dr. Lockhart Stephens, C.B.E., D.L., "Chy-an-dour," Pennance Road, Falmouth, Cornwall.

W. Nicholls, 74, Bousfield Road, New Cross, S.E.14

L. Parker Tupling, 19, Upper Wimpole Street, W.1

Birth.

DEAN—On December 28th, 1927, to Dr. and Mrs. Christopher Dean, Kimbolton, Hants—a son.

EDS. { G. M. H. / E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLII. *February 11th, 1928.* *Number 1032*

PASSIM

ALTHOUGH the Physiological Theatre proves to be in many ways so readily adapted to the annual dramatic efforts of the Residents, the severely durable nature of its seating accommodation has, we fear, never failed to impress itself upon their usual most enthusiastic audience. This year apparently our ischial pangs are to be softened—not only with a set of crimson cushions, but also by a new and very potent anæsthetic.

The authorship of book and music holds great promise of originality, and we look forward to having cause for much congratulation before the week is out. In our own short experience the music for the various plays has ranged from wholesale Sullivan to the tuneful Selby and his *Take-In Blues*, while the lyrics have always reached a definitely Gibertian standard, yet not unlike *Punch*, at the immediate moment the whole thing usually never seemed as good as its predecessors in the past. We are, for instance, told just now that the all-round brilliance of *The Curse* or *Shall We Join the Nurses* can never possibly be equalled, but, no doubt, in a year or two *Gas and Oxygen* will be held up in a similar way to the young and uninitiated as a shining example of what the play was like in years gone by. We hope at any rate to record its full virtues in a fortnight's time.

ON Sunday last the new catering company concluded their first year of trading in the College. There is, we hear, every reason to be confident of financial success, and we hope to provide a complete report of the year's working in our next number. This is more than encouraging in view of the generous way in which many members of the staff supported a very hazardous enterprise in a thoroughly practical manner, and also if we consider that all profits above the interest on loaned capital are to be devoted to improvement in the food and service provided, as well as in the general amenities of the club. It cannot be denied that the manager appointed by the company has attacked the many and difficult problems of club catering with commendable zeal, and that his enthusiasm and organisation have enabled him to tackle outside work such as the luncheon arrangements for the Bright Centenary celebrations and the dinner at the recent meeting of the Anatomical Society with no little success, but, though this column is little suited either to bouquet or brickbat, we are more than concerned with the general opinion expressed by resident and other users of the College facilities. Our impression of such opinion is that in the first place the Smoking Room has improved beyond all knowledge and that the service there is now more than reasonably efficient. That so much cannot be said for the Dining Room upstairs is not surprising, if the difficulties of serving rush hour meals to uncertain numbers are fully considered. From the residents we hear that there is considerable and unaccountable fluctuation both in the quality of the meals and the efficiency of their service, also that a gallic nomenclature and high flavouring are on occasions but poor compensation for over-cooking and inadequate quantity. The remedy in this case surely lies in the hands of those immediately concerned, and it appears to us that much more would be gained by free discussion with the management than by occasional covert grumblings.

Actual experience of the catering at the other London hospitals has enlightened us to the fact that actually we are not so badly off. Possibly there are two other hospitals with better arrangements; the rest are distinctly below our own level. Now that the new company has in a way found its feet, we see no reason why it should not

improve and give us service second to none. It can and should be guided gently into that path of Horderian horse sense which provides such a relief from the evangel of the raw carrot and much other of the prevalent faddishness in food.

THOSE among us who fondly imagined the Nurses' Home to be a placid place wherein brief leisure meant no more than sewing or the more domestic arts will stand amazed at the outburst of rhetoric so ably recounted elsewhere in these pages. Our one regret is that those grim portals must for ever frown upon the presence of the male on these occasions, especially when such vital matters are discussed and such soundly physiological conclusions reached.

WE have all met the old lady who wants a bottle of the brown medicine that did her so much good a year ago, and in this connection we are indebted to a member of the visiting staff for permission to publish the following amusing example, which recently came to his notice :—

Jan. 5th, 1928.

Sir,

In 1926 can you remember an old one eyed woman, who told you her head was draining itself into her throat, she could not get it out at the nostrils, she feels it going down the throat, the throat is full of phlegm.

You gave her some ointment that relieved it at once, smelt something like camphor, will you please send me some of this ointment and oblige. I am enclosing 5s. the doctor says it is a healthy throat and perhaps comes from the heart, the ointment was to put up the nose.

Yours respectfully, etc.

THIS week the Rugger XV enter on the first round of their annual battle for the Cup. To judge from their existing record they have every reason to be confident of success, but we fully realise that cup and club matches are two very different matters, and that the stern encounters on the Richmond ground demand a great deal of extra effort from a team that has to meet the severe strain of a first class fixture list.

On going to press we hear that the first fence has been well and truly cleared by 12 points to 3.

WE note that Mr. H. L. Eason has been re-appointed as representative of the University of London on the General Medical Council.

THREE Lectures on the surgery of the Kidney and Ureter will be given in the Medical School on Fridays, February 10th, 17th and 24th, by Mr. Graham Simpson, F.R.C.S., the chair being taken on the first occasion by Mr. C. H. Fagge, M.S., F.R.C.S. These lectures are open, and admission without ticket is to all students of the University of London and to others interested in the subject.

AT a meeting of the GAZETTE Committee, held in the Counting House on Monday, February 6th, Messrs. O. Plowright and E. T. Conybeare were appointed joint Editors on the retirement of Mr. G. M. Housden, who has left Guy's to take up an appointment at the Ramsgate General Hospital. Our best wishes go with the retiring Editor, who will be long remembered here not only by his many friends but also by reason of his sterling work in connection with lawn tennis and his great enthusiasm for the GAZETTE itself.

The Seat and Causation of Abdominal Pain.

A Paper read to the Pupils' Physical Society on January 26th, 1928, by Mr. H. N. Harley.

MR. CHAIRMAN AND GENTLEMEN,—Pain, in one of its various forms, is that symptom which above all others we are called upon to treat, and which brings a patient to his doctor crying out for relief. Surely, then, it is our duty to try and obtain, as far as possible, a true insight into those factors underlying the production of such an all-important symptom. The analysis of any pain, its diagnosis and its treatment will undoubtedly be facilitated if we have a clear understanding as to the mechanisms concerned in its production.

In the following pages my aim will be first of all to consider those general principles underlying the production of all abdominal pain, next to inquire into what part of the body the brain localises the symptom so produced, and, finally, to study in some detail the pain of appendicitis and that associated with the stomach, to see how these fit in with the general principles discussed.

SENSIBILITY OF THE ABDOMINAL WALL

Before proceeding further it may be well to consider the sensitivity to pain of the structures with which we are dealing, in this case the abdominal wall and viscera. In the abdominal wall we find three layers endowed with sensibility to pain. The first of these is the skin, which at present needs no further mention. The second is the muscular wall of the abdomen, and this is the layer which most often becomes hyperalgesic in abdominal disease, the tenderness frequently extending far beyond the site of the organ affected.

The third layer is the layer of loose connective tissue lying immediately external to the parietal peritoneum. The presence of this can be shown in an operation, such as that for hernia, when performed under local anæsthesia. The skin and superficial tissues are cut through without pain. When, however, the subperitoneal connective tissue is touched or irritated the patient at once experiences great pain. After the peritoneum is incised the visceral layer may be scratched, but the patient feels nothing, showing it to be insensitive. Ramstrom has demonstrated histologically that this connective tissue layer is richly supplied with nerves and nerve endings, the nerves being derived from those which supply the overlying muscles of the abdominal wall. It is easy to imagine that peritonitis and peritonitic adhesions may readily affect this sensitive layer, so causing local pain in the part irritated.

The visceral pleura is as insensitive as the peritoneum. In fact, the only sensitive serous membrane in the body appears to be the tunica vaginalis of the testes, and this differs from the other serous membranes in that it is supplied by a cerebrospinal nerve—the genital branch of the genito-femoral—and not by sympathetic nerve fibres.

Sensibility of the viscera

We now arrive at a very important and interesting study, namely, the sensibility or insensibility of the abdominal viscera, a question round which argument has raged for many years. It would at first sight appear that such a condition could readily be put to experimental test, but it must be remembered that in animal experiments evidence of pain gives little or no indication of the position of this pain. If we make pressure over a diseased organ in a human being the sensation of pain may be elicited, and might be ascribed to the organ itself. However, between the palpating fingers and the diseased viscus there intervenes the highly sensitive abdominal wall. Any tenderness thus produced may be due to an increased sensitivity of nerve endings in the wall brought about by the internal lesion, and not to tenderness in the organ itself. This is well shown in cases where the sensitive area greatly exceeds the extent of the diseased viscus as indicated by its surface marking.

It is well known that in operations performed under local anæsthesia the internal organs may be cut, handled, or burnt without giving rise to pain of any sort. The same phenomenon is seen when opening a colostomy in the conscious patient. It was thus at one time concluded that the viscera were quite insensitive. However, it must be remembered that the stimuli used—cutting, burning or pinching—do not occur in the body, and that were an adequate stimulus employed the result obtained might be different. An adequate stimulus is that to which any particular nerve ending is sensitive.

It was for long thought that peristalsis and spasm of the muscular coats of an organ could produce the sensation of pain. Dr. Hurst[1] disproved this fallacy and showed that the only adequate stimulus was one which produced tension upon the muscle fibres. Numerous experiments were performed, and it was shown that the feeling of pain was merely an exaggeration of the sensation of "fulness" or "wind." A rubber balloon was inserted into the colon through a colostomy opening. On slowly blowing up the balloon to a certain pressure a sense of fulness was obtained. On rapid inflation to the same pressure the sensation was one of pain. In the first case the muscular wall of the gut had time to relax while the bag was being inflated, whereas in the second it could not do so. After a time the sensation of pain passed away and could be reproduced by blowing in more air. Similar results were obtained by inflating bags in the œsophagus and rectum, and by pumping air into the stomach.

Peristalsis by itself cannot give rise to the sense of pain. There must be some additional factor which produces tension in the muscle fibres. Tension in this case is not synonymous with stretching, as may be shown by an example. The colon at one time may be empty and contracted. Some hours later it is perhaps full of fæces having a diameter of an inch or more, yet no sensation is produced. The reason is that the ingress of fæces is sufficiently slow to allow the tone of the muscle fibres to diminish as their length increases. The tension upon the fibres is the same whether the gut is empty and contracted or full and distended.

The same phenomenon is well illustrated in the case of the rectum. The call to defæcation is produced by the passage of fæces from the pelvic colon into the rectum. The rectal wall is rapidly distended, and so the tension on its muscle fibres is increased. If the call is not responded to the desire passes, and fæces may be felt in the rectum showing that they have not slipped back into the pelvic colon. Evidently the rectal musculature has accommodated itself to its increased contents by a diminution in tone, and so there is no further tension upon it.

We must now inquire how this idea fits in with the facts, and begin with a discussion on the form of pain known as colic, as with this there need be no associated inflammatory conditions.

Starling's law of the intestine, which applies to the whole alimentary canal, states that stimulation

of any part of the intestine leads to contraction above and relaxation below the point of stimulation. Meltzer, in 1903, suggested that colic might be due to a disturbance in this law, a view which has been supported by Dr. Hurst.[1] In colic a portion of gut undergoes violent peristaltic contraction. On this view the part immediately below which should relax is unable to do so, owing either to organic disease, or spasms the result of reflex irritation. The advancing peristaltic wave produces a steadily increasing tension in the portion of gradually shortening gut between it and the obstruction. Tension is the adequate stimulus for pain, which is thus produced.

True intestinal pain is only produced when there is increased motor activity. Thus diseases such as ulcerative colitis, typhoid fever and tuberculous ulceration may not give rise to any pain. Such conditions, however, are liable to induce spasmodic contractions as reflexes from the ulcerated surfaces, thus interfering with Starling's law and producing colicky pain, as has been described.

Organic obstruction of the bowel produces violent pain owing to the pressure of intestinal contents upon the bowel wall above the obstruction. These contents are forced onwards by peristaltic waves or tetanic contractions, but naturally cannot get past the obstruction. A tetanic contraction is often visible and palpable, and a paroxysm of pain seen to accompany it. The gastric and intestinal mucosa is insensitive to tactile and thermal stimuli, and it is the muscular wall which alone appreciates sensations. It would seem that sensations of fulness and emptiness correspond with those of posture and tension in a limb, so that there is a visceral muscle sense similar to that in skeletal muscles.

The pain in biliary and renal colic is brought about in a similar manner. A stone passing into the ureter or bile duct acts as a foreign body and distending the lumen of the tube induces violent peristalsis. As a result it passes along the duct —ureter or bile duct as the case may be—and may become arrested at any part, usually the lower end. Violent peristalsis behind the obstructing stone produces a rise in internal pressure, which results in pain of the severest order. After a time, when the stone is stationary, the duct accommodates itself, peristalsis is no longer induced sufficiently to cause pain, and the tone of the muscle wall surrounding the stone is diminished so as no longer to contract tightly upon it.

Visceral and Referred Pain

Having thus discussed those factors which are responsible for the production of that pain known as colic, it remains to try and discover where any particular pain is felt or situated. Lennander,[2] a good many years ago, drew attention to the insensitiveness of the abdominal viscera to mechanical stimulation, and put forward the theory that all pain in visceral disease was due to inflammation of or traction upon the parietal peritoneum and subserous connective tissue. He believed that the autonomic nerve fibres supplying the viscera were incapable of conveying pain impressions. H. Tyrrell Gray[3] has strongly supported this view, believing that colicky pain arises from, and is referred to, the mesentery. He suggested that the mechanism in this case consists in the natural attempt of the bowel to drive onwards a diseased or inert area, thereby inducing an abnormal tension on the associated mesentery. Lennander also suggested as a further possibility the pressure upon the abdominal wall of a portion of gut contracted, and so erected, above some obstruction.

In 1863 Hilton,[4] in his lectures on "Rest and Pain," discussed what he termed "sympathetic pain." This he described as pain occurring on the surface of the body due to disease of deeply-seated viscera, and he assumed that in the spinal cord there was some connection between the incoming sympathetic fibres from the viscera and the corresponding somatic nerves.

In 1888 Ross[5] investigated the matter and came to the conclusion that there were two forms of pain—splanchnic, occurring in the viscera, and somatic, referred to peripheral structures. The latter corresponds to Hylton's sympathetic pain, where the impulses from the visceral nerves, in the words of Ross, "diffuse to the roots of the corresponding somatic nerves, and thus cause an associated pain in the territory of distribution of these nerves."

Head and Mackenzie[6] developed further this idea of what they termed "referred pain." A good example is to be seen in the case of toothache. The pain due to a diseased tooth may be felt not only in the affected tooth, but in the other teeth, along the jaw and perhaps in the face. The skin may be hypersensitive so that pain is produced by brushing the hair. The removal of the diseased tooth results in complete disappearance of all pain, which thus cannot be due to spread of any morbid process. There is only one way in which such a wide area of pain could be produced. Stimuli from the diseased tooth pass along the sensory nerves from that tooth to the central nervous system. These stimuli, if sufficiently strong, will spread in the grey matter to adjoining sensory cells, and so give rise to pain in those parts with which these cells are connected. The stronger the stimulus the greater is the radiation in the grey matter, and so the area of hyperæsthesia, which depends upon the number of nerve cells affected.

Sherrington showed that a mustard plaster over the upper end of the sternum caused an unpleasant sensation on the inner side of each arm just above the inner condyles. The reason is that these two areas are supplied by the same spinal segment, one branch of the second thoracic nerve going to the chest and another to the upper arm.

Mackenzie put forward the view that impulses passing from a diseased viscus to the spinal cord produce there a focus of irritation, so that a stimulus which normally would give rise to little or no sensation now produces a sense of pain—as he says, " the threshold of stimulation " is lowered. In fact, the normal afferent impulses arising in the muscles and other tissues connected with this segment of the cord are sufficient to produce pain under such circumstances. Normally, Mackenzie considered, a stimulus which might cause pain has opposed to it a certain degree of resistance on its entrance into the pain centres, so that it must be of a certain minimum strength before it can pass through. With an irritable focus in the cord this minimum is greatly reduced. The cutaneous reflexes may show a similar lowering of the threshold, being brisker than normal over the hyperæsthetic area.

Along with hyperæsthesia there is usually some muscular rigidity, though in certain cases one or the other may alone be present. The rigidity is evidently produced in the same manner as the hyperæsthesia by a stimulus entering the central nervous system from the diseased viscus spreading to and exciting motor cells in the anterior horn of the same segment. Head[7] mapped out the areas of pain and hyperæsthesia associated with disease of the various abdominal viscera, and found that they coincided accurately with the nerve supplies of these viscera.

Mackenzie held the view that no pain of any sort was felt in the viscera themselves, but that it was always referred to the anterior abdominal wall. This means that the afferent sympathetic nerves are not directly connected with any perceptor in the brain, and so no sensation is felt so long as the impulses are not sufficiently strong to spread to adjoining cells of the cerebrospinal system. Ross believed in the presence of both splanchnic or visceral and somatic or referred pain, a view which has been strongly supported by Dr. Hurst, and is at present that most widely held.

We must now inquire into the types of pain which are met with in disease and those which may be produced experimentally, to see how they fit in with these ideas. Let us for a start investigate the pain of a gastric lesion which is frequently felt over a limited area of the epigastrium, usually at or near the mid line. The position of the pain does not necessarily lie directly over the stomach, and it does not shift when the stomach moves. Thus, a low visceroptotic stomach has its area of pain in the same position as one which is relatively high up. Is this pain situated in the stomach itself or is it referred to the abdominal wall ? Mackenzie held that it was invariably referred whether there was or was not any muscular rigidity or hyperæsthesia. He considered that the constant position of the pain was proof of this view, an argument which has been disputed by Dr. Hurst, who says that " the brain learns to locate the seat of sensations according to the average position of the part in which they originate, and it is quite impossible for it to recognise changes in the position of the part from the character of the sensation, as the impulses which produce the sensation are identical wherever the part may happen to be at the moment." He found that on pinching a movable portion of skin drawn away from its normal position the sensation was referred to the point in space where the stimulated spot would normally be. The sensation on this view is a true visceral sensation, the afferent nerves from muscular viscera corresponding to the deep afferent nerves which supply the skeletal muscles with their characteristic " muscle sense." On the assumption that the brain perceives pain in the viscera we have an explanation of the fact that the more fixed an organ is in the abdomen the more exactly localised is pain produced in that organ. Thus, the localisation of intestinal pain is far less accurate than that of gall bladder pain, and the latter is felt in the same position wherever the gall bladder happens to be.

Mackenzie made an interesting observation while performing an abdominal operation upon a patient who refused to have any anæsthetic, either local or general. He noticed that spasms of pain felt by the patient coincided with peristaltic waves passing over a portion of the small intestine which was outside the abdomen. The patient indicated the position of the pain as being near the umbilicus, and this Mackenzie regarded as proof that it was referred. Such, however, need not be the case for, as previously pointed out, the brain does not appreciate variations in the position of internal organs. If the pain is truly visceral it would thus be felt in the same position whether the portion of gut was inside or outside the abdominal cavity.

Œsophageal pain affords a further interesting study. We are all familiar with the pain experienced on drinking hot fluids. This is due to the liquid being held up at the cardiac orifice and is felt at the front of the chest. Mackenzie[6] regarded this as a referred type of pain. Dr. Hurst[1] has

shown that rapid inflation of a balloon in the œsophagus produces a sense of pain felt both in front and at the same level behind, the anterior pain feeling to be deeply seated beneath the sternum. The posterior pain often radiated laterally, but neither was accompanied by superficial tenderness. Dr. Hurst suggested that the anterior substernal pain was truly visceral and located in the œsophagus itself, while that felt posteriorly was of the referred variety.

The shoulder pain referred from the diaphragm is interesting and important. The phrenic nerve is derived from the third, fourth and fifth cervical segments, and contains both efferent and afferent fibres. Stimulation of the afferent fibres in the diaphragm produces shoulder pain in the skin area supplied by these spinal segments. Such pain may be caused by a liver abscess, perforated gastric ulcer, subphrenic abscess, diaphragmatic pleurisy, acute pancreatitis, gall stones, ruptured spleen and sometimes in appendicitis with peritonitis.

Professor John Fraser, in a recent paper, draws a distinction between referred pain and hyperæsthesia. He says that hyperæsthesia and hyperalgesia depend on an irritability of certain spinal areas resulting from abnormal afferent impulses from a diseased viscus, so that stimuli entering those areas from superficial structures are magnified and presented to the sensorium as hyperæsthesia. This is Mackenzie's idea of the " focus of irritation " in a segment of the cord. Referred pain according to Professor Fraser is " the projection to the surface by a disturbed sensorium of stimuli originally recorded as afferent impulses from a diseased viscus."

True Visceral Pain

Having outlined the main facts in connection with the question of referred pain, it is time to consider what evidence there is pointing to the localisation of pain in the viscera themselves.

It appears to be an undoubted fact that pain is at times apparently felt by a patient deep to the body wall, an observation confirmed many times by doctors. Mackenzie answers this argument by citing the case of herpes zoster. The pain in this case must be referred, as it is due to inflammation of posterior root ganglia, but it may feel deeply seated. However, Langley[8] has shown that afferent sympathetic, as well as cerebrospinal nerve cells, are found in the posterior root ganglia. Thus, as Dr. Hurst suggests, the pain may be referred to the peripheral distribution of these sympathetic cells, as well as to that of the ordinary spinal nerves. Mackenzie held that pain was never referred to the termination of a sympathetic nerve, but if this were so the apparently deep situation of the pain would indeed be difficult to account for.

Normal sensations such as hunger, repletion and the sense of fulness in the stomach, the call to defæcation and the desire to micturate appear to be located actually in the viscera themselves. I feel sure that anybody who rapidly eats a heavy meal will agree that the feeling of discomfort so obtained appears to be felt inside the abdomen and not in the abdominal wall. The feeling of urgency in the rectum also appears to be felt inside the anal orifice and not merely in the surrounding skin. If the hollow viscera are capable of feeling normal sensations such as these, there appears to be no reason why they should not appreciate a sense of pain, which in each case is produced in the same manner, but by a stronger stimulus. It will be noticed that these sensations are all due to an increased tension on the wall of some viscus, and disappear when that tension is reduced to normal. Further, the position in which a patient indicates the site of his pain is frequently more nearly over the surface marking of the diseased organ than that of the somatic segment with which it is connected. Cardiac pain is felt directly over the heart and renal pain in the position of the kidney itself, both feeling to be deeply seated. Head has further pointed out that a lesion may give rise to deep tenderness directly over it, with cutaneous hyperalgesia in another area of skin. He is nothing if not emphatic when he says[9] that " no one who has suffered from the passage of a renal calculus, or a true referred pain from inflammation of the pulp of a tooth, will look upon such statements (namely, the contradiction of the presence of true visceral pain) as anything but hair-splitting dialectic."

A further piece of evidence that pain sensations may be felt in a viscus itself is afforded by a tender gall bladder. Whether the liver is large or small, so altering the position of the fundus of the gall bladder, pain may be felt over the gall bladder itself when the latter is palpated and when there is no overlying muscular rigidity. If this tenderness was a referred sensation it should be constant in position, as is the true referred pain so often met with. It may be argued that the tenderness in these cases is due to spread of infection through the wall of the gall bladder with implication of the parietal peritoneum. If this were true we should expect to get a certain amount of muscular guarding which, other than voluntary contraction, may be entirely absent.

Observations upon the appendix also reveal evidence of the presence of true visceral pain in the organ itself. Local deep tenderness is frequently elicited when there is no sign of rigidity or tenderness in the outlying wall. The fingers may have to be pressed in very deeply before slight pain is noticed, and the appendix in some cases is felt

at the moment when the patient complains of pain. This sign is obtained in a quiescent period some time after the last attack of appendicitis, and when the organ is not adherent to surrounding parts. The pain on pressure may be confined to a very small area varying according to the position of the appendix. It is thus probably situated in the appendix itself.

It may be well now briefly to summarise our views with regard to visceral and referred pain. The general consensus of opinion at the present time is that both types exist. The existance of referred pain is undoubted, while that of true visceral pain is highly probable. Dr. Hurst and Dr. Ryle believe that visceral pain is produced only by such conditions as cause an abnormal increase in tension upon the muscular wall of a hollow viscus. Referred pain and tenderness they regard as being due essentially to inflammatory lesions, though accompanying also the severe colics —renal and biliary.

Appendicitis

Having outlined those general factors concerned with the production of abdominal pain, we may now investigate the conditions associated with an attack of appendicitis. In a typical case the pain starts in the umbilical region, and only after an interval shifts into the right iliac fossa. If the appendix is removed very early, before this secondary pain has appeared, it is found to be distended with inflammatory products, but the inflammation has not spread to the overlying peritoneum. It would thus appear that this initial pain is due to distension of the appendix leading to increased tension upon its muscular wall. It is easy to imagine that the lumen is obstructed by a concretion, kink, or swollen mucous membrane, which would excite exaggerated peristalsis in the organ, and so raise the internal tension as in ordinary intestinal colic. Bacterial infection causes the accumulation of inflammatory products with a further increase in tension.

It appears further that bouts of pain are sometimes produced by painful peristalsis of the cæcum, which is frequently distended with gas, due to bacterial decomposition, and probably also in some cases to an accompanying typhlitis with atony of the gut. There may, however, be widespread pains in the abdomen at the beginning of an attack due to abnormal movements of the stomach and intestines, and expressing the reaction of normal parts to a lesion situated in an allied physiological system.

The initial epigastric pain is most acute in those cases where there is considerable obstruction to the lumen of the appendix. On perforation it may disappear quite suddenly owing to the diminution in tension thereby produced. When there is no marked obstruction the whole organ may become inflamed or gangrenous with an almost complete absence of symptoms, but as soon as the covering peritoneum is affected pain is felt in the right iliac fossa. Even rupture due to local gangrene may pass without much notice when adhesions prevent the spread of inflammatory products. The initial pain, then, is produced in the same way as pain due to intestinal obstruction or colic. It may be asked why it is felt in the epigastric or umbilical region. All intestinal pain, however, is felt near the mid line, and as the appendix is a part of the intestine we should expect pain originating in this organ to be felt in the same region.

As soon as there is any localised peritonitis pain and tenderness are felt in the right iliac fossa. This secondary pain is due to the peritonitis and does not originate in the appendix itself. Peritonitis may give rise to pain in two ways. Firstly, inflammation of the parietal peritoneum stimulates the numerous nerve endings in the very sensitive sub-peritoneal connective tissue layer producing pain in this layer. Secondly, the abdominal wall may be the seat of referred tenderness and pain due to stimulation of afferent nerve endings in the peritoneum itself. Pain felt in the sub-peritoneal connective tissue layer is fairly accurately localised, and is produced in the neighbourhood of the appendix whether normally or abnormally situated. Thus, in a retrocæcal appendix there may be loin pain, while if in the pelvic position there is pain in that region. Dr. Hurst records two cases of appendicitis when the cæcum and appendix were just below the liver. There was the usual initial pain in the umbilical region, but the secondary peritonitic pain lay directly over the inflamed parts, and there was no pain in the right iliac fossa. Whatever the situation of the appendix the abdominal wall in the region of the right iliac fossa may be the seat of referred tenderness and pain. These signs naturally cannot vary with the position of the appendix, whose nerve supply is constant. In a normally situated appendix it is impossible to say how much of the tenderness is due to inflammation of the parietal peritoneum and how much to referred hyperalgesia in the abdominal wall. With peritonitis confined to the pelvis, tenderness in the right iliac fossa, when present, must be entirely due to muscular and cutaneous hyperalgesia. We can thus see how appendicits may give rise at first only to reflex symptoms in the right iliac region, and then when inflammation extends to the parietal peritoneum pain is produced in the immediate neighbourhood of the inflammation.

It is difficult to account for the fact that the referred signs in the right iliac fossa are so dis-

tinctly one sided, although the appendix is developmentally a portion of the digestive tube. Occasionally pain is referred to the left iliac region, and in rare cases is confined to this side. Pain referred from the gall bladder and its ducts is also one sided, though this organ again is an offshoot from the alimentary canal.

Thus, in connection with the appendix, we may distinguish three types of pain. Firstly, the initial epigastric or umbilical pain due to increased tension upon the wall of the appendix; secondly, referred pain and tenderness in the right iliac fossa due to inflammation spreading through the wall of the appendix to the meso-appendix and covering peritoneum; and, thirdly, pain in the neighbourhood of the appendix itself owing to involvement of the parietal peritoneum and the sensitive connective tissue layer outside it.

Gastric and Duodenal Ulcer

We now arrive at a discussion of pain associated with the stomach, one of the most interesting types of all.

Rapid inflation of this organ through a stomach tube gives rise to a sensation of pain felt in the epigastrium. Soon, however, the pain passes off owing to a relaxation of gastric tonus, with consequent diminution of tension upon the muscle fibres. The stomach, as it were, "accommodates itself" to its new contents. In cases of pyloric stenosis, visible and palpable tetanic contraction is occasionally observed, and is accompanied by intense pain, evidently due to the rise in internal tension.

Peristalsis occurs in the pyloric portion of the stomach only, the contractions being very deep, especially as they approach the pylorus itself. If this sphincter is closed and the contractions unusually forcible we shall get a rise of pressure in the pyloric antrum and canal in exactly the same manner as occurs in the intestine before an obstruction. Even if the pylorus is not closed the amount of stomach contents which escapes with each peristaltic wave is so small that the pressure may still rise considerably. Here, then, we have one mechanism by which gastric pain might be produced. If the pylorus remains in spasm, or fails to relax, it is conceivable that even with normally vigorous peristalsis the internal tension might rise sufficiently high to cause the sensation of pain. It is probable that the fundus also takes a share in the production of increased intragastric tension by an exaggeration of its normal state of tonic contraction.

The pain of gastric disease falls under two main headings—immediate pain which occurs soon after taking food, and delayed pain which only develops after an interval when the stomach is becoming empty. The pain of gastric ulcer may be immediate, while that associated with duodenal ulcer is delayed.

As regards the causation of ulcer pain there are three main views to be considered. First, that it is due to direct mechanical irritation of the ulcer by food. This is obviously out of the question, as food passes into the duodenum within a few minutes of its ingestion, yet no pain is experienced for some considerable time after. Further, in the presence of a gastric ulcer the pressure of the opposite wall of an empty stomach produces no symptoms. Secondly, that the pain is due to chemical irritation of the ulcer by hydrochloric acid. It might be supposed that, as Dr. Hurst suggested some years ago, a gastric ulcer would soon be bathed by the acid secreted by the fundal glands, while the acid would not reach a duodenal ulcer till an interval had elapsed, and would be more dilute owing to its being well mixed up with the food. However, the introduction of hydrochloric acid into an ulcer-containing stomach does not always give rise to pain, and typical ulcer pain may occur in a person with achlorhydria. The early morning acidity of the stomach is often high, yet pain is uncommon at this time, and usually disappears on fasting. Finally, typical ulcer pain, and its relief by alkalies, may be induced by disease of the appendix or gall bladder even when there is achlorhydria. This pain is presumably due to reflex hypertonus produced in a normal stomach by the external lesion. It thus appears that the acid is not essential to the production of ulcer pain, which may occur in its absence, though quite possibly it does, when present, exert some influence of its own. This question will be discussed later.

The third view to be considered is that the pain is due to the production of increased intragastric tension, the result of hypertonus, excessive peristalsis and perhaps inhibition of pyloric relaxation. The ulcer stomach is as it were unduly irritable, and responds to the ingestion of food by an abnormally increased tonic and peristaltic activity. Dr. Hurst[1] has suggested that the hydrochloric acid, when present, might assist this state of affairs by preventing pyloric relaxation, and by increasing the muscular activity of the stomach, due to its stimulating more strongly the exposed nerve endings in an ulcer than those in normal mucous membrane.

With regard to the production of delayed, or hunger pain, Dr. Hurst says "when the pain begins between two and three hours after a meal, only a small proportion of the food is still present in the stomach, and the hypertonic condition constantly present in cases of duodenal ulcer

reaches its greatest development, owing to the increase in tone which occurs as the bulk of the gastric contents diminishes." The pain thus occurs when the stomach is nearly but not quite empty. In the full stomach the tone of the muscle fibres is insufficient to produce that degree of intragastric tension which would give rise to pain. On the other hand, when the stomach is empty no rise in internal tension can occur, as the stomach has nothing upon which to contract. Dr. Hurst thought that the pain was due to increased pressure in the pyloric portion of the stomach only, due to vigorous peristalsis, accompanied by reflex achylasia—failure to relax—of the pylorus. Dr. Ryle[10] considers that the tonus of the whole organ, including the fundus, is increased, and that there need be no achylasia of the pylorus. Thus, the pain is of a sustained and not of a colicky nature, while the emptying rate of the stomach is usually normal, or even rapid, whereas with pyloric achylasia it would be slow. Colicky gastric pain occurs as a preliminary to vomiting when the stomach is actively contracting against a closed pylorus.

It has long been considered that the relief of pain brought about by alkalies is due to the neutralisation of the gastric hydrochloric acid. However, the pain is often equally well relieved by milk, water and particularly by an effervescent drink. Indeed, in the case of duodenal ulcer the smallest quantity of food, such as a biscuit, may be sufficient. Dr. Ryle believes that the relief in each case is due simply to diminution in gastric tonus from the introduction of food, fluid or gas into the stomach. Sodium bicarbonate and effervescent drinks are particularly effective in that gas is liberated, and bicarbonate is less effective in cases with achlorhydria. It appears that the tonus of the pylorus and pars pylorica is also diminished by the evolution of gas, and so facilitates emptying.

Dr. Ryle believes that what may be called the "physiological habit" of the stomach is one of the main factors concerned in the production of gastric pain, and this is the reason that similar symptoms may be produced by outside lesions. As he says, "The hypersthenic habit is present more constantly with duodenal ulcer than with any other lesion, but when it is present in association with another lesion the same dyspeptic reaction is produced."

The pain in lesser curvature ulcer usually develops within a quarter to half an hour of taking food. There is frequently a spasm of the greater curvature opposite the ulcer giving the stomach an hour-glass appearance. This spasm cannot of itself give rise to pain, as it may be present when pain is absent, and vice versa. The presence of the ulcer, however, if it does not cause permanent shortening of fibres, induces, according to Dr. Ryle, a reflex hypertonus in them, and sometimes perhaps continual reflex shortening. This hypertonus is increased by the introduction of food, thus limiting the normal relaxation which should occur, and so leading to an increased internal tension which produces pain.

Referred cutaneous hyperalgesia and muscular guarding are usually more pronounced in the deeper and more chronic ulcers which are invading the muscular wall, possibly because they destroy the muscle fibres in which the nerve endings ramify. In carcinoma of the stomach referred somatic signs are rarely found. This may be due to the fact that the growth invades between muscle fibres and does not erode them as in the case of an ulcer.

Dr. Ryle suggests that bicarbonate relieves the pain by facilitating belching and so lessening the tension in the proximal part of the stomach. If the gas present in the fundus is aspirated through a stomach tube there is relief of pain, while if air is blown in pain is produced.

External lesions may simulate the pain of gastric as well as of duodenal ulcer. Dr. Ryle thinks that in the female, gastric ulcer is more frequently simulated, while duodenal ulcer is more commonly irritated in the male. This corresponds to the fact that in a hypersthenic individual the response is delayed pain, while in a hyposthenic person it is immediate pain. The response thus, whether due to irritation in the stomach, gall bladder or appendix, is determined by the physiological tendency of the sex or individual.

In organic hour-glass contraction of the stomach, X-rays reveal that peristalsis, and sometimes tetanic contraction, may occur in the fundus and give rise to intense pain.

It is evident that the above views are difficult to put to experimental test, and to obtain evidence of real value a large series of cases would have to be investigated with care, thoroughness and in detail, using all the methods at our disposal. Unfortunately, not many such investigations have been made, and those that have are rather conflicting in the evidence they supply.

In 1925 Marie Ortmeyer[12] published a series of cases examined by X-rays, and with a balloon in the stomach connected externally to a manometer. The balloon was blown up to a certain pressure and tracings obtained, showing the tension inside the stomach and its variations with gastric activity. At the height of pain a neutraliser was given consisting of 30 to 60 grains each of sodium bicarbonate and calcium carbonate. In 23 cases so examined

X-rays revealed after giving the antacid mixture, in 9 no change in peristalsis, in 10 a variable increase in activity, in 3 decreased activity, while 1 decreased for 12 minutes and then increased. Out of 29 cases examined with the balloon, on administering the neutraliser, 19 showed no change in general tone as revealed by the average height of the tracing from the base line. In the remaining 10 cases artificial interruptions required small changes in the apparatus. It thus appears that no constant change in gastric mobility or tone is produced by giving an antacid mixture.

Recent work by W. L. Palmer[13] in America has led him to believe that acid stimulation of nerve endings in the ulcer is the main cause of ulcer pain, but this view is difficult to reconcile with the clinical facts previously narrated. Two methods of experimentation were performed upon a number of cases. In the first a balloon and manometer were used as above, but a stomach tube was tied on to the balloon, so that material could be put into the stomach or evacuated at will. It was found that in duodenal ulcer cases the pain frequently did not correspond with the occurrence of hunger contractions, often being absent when these were very active, and vice versa. In one case the hunger contractions ceased on injection of acid, but pain was produced without accompanying alteration in gastric tension. In a case of gastro-jejunal ulceration paroxysms of excruciating pain were seen to accompany gastric contractions, but severe pain was also present between contractions and after they had ceased. At the end of 10 days of antacid treatment equally intense muscular activity was observed, but without pain. Palmer suggests that "intense muscular activity is an adequate stimulus to the pain-producing mechanism only when the mechanism has been sensitised by hydrochloric acid." However, the cessation of pain in this case might have been due to better health of the patient resulting from his treatment, so that the threshold for the pain sense was raised. In a third case pain was produced by motor activity alone, the acid being neutralised. Six days later, when the pain was not so severe, gastric mobility did not produce pain, but introduction of acid did. According to Palmer a higher degree of irritability was required for the production of pain by peristaltic activity than by acid stimulation, so that the response to acid is more sensitive than that to gastric hyperactivity. On starvation most of the patients lost their pain, but some were highly sensitive to acid. One patient who did not lose his pain was found to have an unusually high fasting acidity without active peristalsis. Injections of atropine and glucose to diminish the mobility and tone of the stomach did not affect the pain.

Palmer's second series of experiments depended upon X-ray examination after barium meals mixed either with alkalie or ½ per cent. hydrochloric acid. In 48 cases no phenomena were observed during a period of pain with the acid meal which were not seen in its absence with the alkaline meal. There appeared to be no relationship between peristalsis, pylorospasm and spasm of the duodenal cap on the one hand and pain on the other.

Palmer thus concludes that hydrochloric acid may produce pain by itself, acting on some pain-producing mechanism in close relationship to the ulcer, either by producing œdema in the tissues at its edge, by producing localised muscular spasm, or by direct irritation of exposed nerve endings in the ulcer.

It is difficult to draw definite conclusions as to whether acid or gastric activity is the main cause of ulcer pain. It is possible also that the one may influence the other, the acid, for example, acting as a sensitising agent and lowering the pain-threshold for motor activity. It may also perhaps act locally in the region of the ulcer as Palmer holds, or assist, as Dr. Hurst has suggested, by increasing the activity of the stomach and inhibiting pyloric relaxation. As pain of intestinal origin is always due to the production of increased tension upon its muscular wall, it would certainly appear that here we have the most reasonable explanation of gastric pain as well. However, I feel that in the present state of our knowledge we are not justified in pointing with the finger of certainty towards any one factor as being the sole or even the main cause of ulcer pain. There may be a number of conditions responsible.

Summary

1. There are three distinct layers in the abdominal wall endowed with sensibility to pain :—

(*a*) The skin ;
(*b*) The muscular coat ;
(*c*) The extra peritoneal connective tissue.

2. The sensation of pain may be produced by the production of an increased tension upon the muscular wall of a hollow viscus.

3. Pain in abdominal disease may probably be felt in any of the following situations :—

(*a*) The diseased organ itself ;
(*b*) The extra peritoneal connective tissue when inflammation spreads to the parietal peritoneum ;
(*c*) The skin and musculature when the pain is referred ;

4. In appendicitis the initial umbilical pain is the result of increased intra-appendicular tension.

The secondary pain in the right iliac fossa may either be a true referred pain or the result of inflammation reaching the parietal peritoneum.

5. The pain of gastric and duodenal ulcer is probably due to one or both of the following conditions :—

(*a*) Hypertonus and increased muscular activity in the stomach ;

(*b*) The presence of hydrochloric acid in the gastric juice.

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A Guy's Post-Graduate in Pennsylvania.

AFTER the excitements of the Atlantic crossing, the first glimpse of the lights of New York one Sunday night, the descent of the Prohibition officers and the closing of the bar, the first sight of the Statue of Liberty and the sky-scrapers emerging from the morning mist, the long and weary waiting for the immigration officers before being allowed to land, and two feverish days and nights in New York, I at last reached my destination, the Quaker city of Philadelphia, where the University of Pennsylvania is situated.

Within half an hour of my arrival I was being introduced to the members of the Pennsylvania Delta Chapter of the Sigma Phi Epsilon Fraternity at their house on Spruce Street by a member of the Fraternity whom I had met on the ocean voyage. Here the greatest possible hospitality was shown me. I was entertained to dinner, put up for the night and the following day, rooms being found for me in the same house as two of the Alumni brothers.

This Fraternity has Chapters in 55 Universities, scattered throughout the length and breadth of the United States. A member of any Chapter finding himself in a University town where there is a Chapter of the Fraternity is sure of a welcome from his brethren there.

The members invited me to make use of the house (where undergraduates live and which graduate members may use as a club) during my stay in Philadelphia, and a week or so later was invited to become an honorary member. A " pledge pin " was placed in my buttonhole to show to all and sundry that I was pledged to membership of Sigma Phi Epsilon, and on a Sunday morning a short time after this I was initiated into the mysteries of the Brotherhood, the only Englishman among its many thousands of members, and was invested with heart-shaped pin which, worn on the waistcoat, distinguishes our members. All faculties of the University are represented at our table, and now and then one hears scraps of medical and dental conversation which carry one back in imagination to the College dining room.

In November the University gave itself up to the festivities occasioned by Junior Week ; members of the class of 1929 paraded the streets, probably for the only time in their lives, carrying walking sticks. Fair relatives and friends came from afar as to Cambridge in May Week. Pennsylvania scored a signal victory over Cornell, the biggest football match of the year, before a crowd of 80,000 people on Thanksgiving Day, dances were given by the various fraternities in the evening, and the week concluded with the Junior Prom, where 1,500 of the gallant and fair danced till dawn and banished dull care and Prohibition.

At the Graduate Hospital, where post-graduate students of the University receive training in the specialities they have selected, I am holding an appointment in the Department of Dermatology and Syphilogy, which is under the direction of Dr. Jay F. Schamberg and his associates. Clinics are held every day in the afternoon, and there are also beds for the treatment of skin diseases and syphilis. On Monday mornings the instructors in dermatology at the University Hospital—the undergraduate teaching hospital—and the assistants and graduate students from the Graduate Hospital meet at the University under the direction of Dr. Wiedman to discuss microscopical sections, prepared from biopsies made at the two hospitals.

Through the kindness of Dr. Schamberg I have also had the opportunity of working in the skin and X-ray and radium departments at the Phila-

delphia General Hospital, where over 50 beds are devoted to skin diseases, and also at the Research Institute of Cutaneous Medicine.

In December the Atlantic Dermatological Conference was held here. Dermatologists from New York City, Boston, Washington and Baltimore met with the Philadelphia dermatologists at the College of Physicians, where a large number of interesting cases had been collected. A dinner was held in the evening at the Manufacturers' Club.

With the approach of Christmas our mantlepiece became loaded with cards from the other Chapters of our Fraternity scattered throughout the country. I received an invitation to spend the festal season in an old Colonial town on the borders of Maryland and Virginia. One dreads to think what would happen if Mayor Thompson were to hear that the parish church in this town cherishes proudly a Bible presented to it by Queen Anne!

As the time for departure draws near farewell parties have become the order of the day, and the past few nights have been spent at these functions.

Everywhere I have met with the greatest kindness and hospitality during my stay here, and everyone assures me that nothing is further from the truth than the feelings towards England expressed by the aforementioned Mayor of that large city in the Middle West. N. B.

Vitamins.

A Paper read before the Guy's Physiological Society, on December 13th, 1927, by Mr. A. R. Clarke.

MR. CHAIRMAN AND GENTLEMEN,—Perhaps I might feel inclined to apologise for my audacity in attempting to give any account of such an extensive subject in the limited time at my disposal. The subject is certainly one of great importance, and one that is barely mentioned in the current text books. An immense amount of work has accumulated in recent years, and it would be comparatively easy to talk upon one of the many topics that are included under the title of this paper. However, I did not choose the subject, but I have done my best to collect together a few facts and observations for your consideration this afternoon.

I do not propose to begin by giving you a definition of the term vitamin—rather I shall give a brief sketch of how the term came to be used, that is, how the vitamins were discovered. Early experimenters had observed that animals fed with diets composed only of the four factors :—

Proteins,
Carbohydrates,
Fats,
Compounds of Mineral Elements,

in a purified form did not flourish. Little attention was paid to these early pronouncements until Hopkins performed a series of experiments on rats, experiments which have become famous as much for the stimulus that they gave to later experimenters as to any great evidential value. He fed rats on a diet consisting of :—

Caseinogen,
Sugar and Starch,
Lard, and
A Mixture of Inorganic Salts.

The animals showed a distinct decrease in their rate of growth, and other symptoms of nutritive failure. The symptoms could be cured and the normal state quickly regained by the addition of milk in very small quantities, or by substitution of butter for lard, or by the addition of cod liver oil. Later experimenters discovered an affection of the eyes which was brought about extensively by these dietary deficiencies. The symptoms described were attributed to the presence of organic substances in the naturally occurring foodstuffs, which were neither proteins, carbohydrates or fats, and of which traces were necessary for the maintenance of life in the higher animals. They were known as accessory food factors, and, later, the term Vitamin was coined for them. Since that time extensive work, qualitative and quantitative, has been carried out on rats, guinea-pigs and other animals with a view to determining the nature, mode of formation, method of action and distribution in the body and the food of these accessory food factors. Further experiments and practical observations on diet in man have been made.

So far, however, these facts are of theoretical interest alone, for man does not yet feed on synthetic diets, and the vitamins are widely distributed among the animal and the vegetable kingdoms from which the food is derived. The importance of the researches was first realised when the deficiency diseases were discovered. The first of these is beri beri—a nervous and metabolic disturbance resulting in pains and weakness in the limbs, loss of sensation and weakness of the heart, which appeared amongst the rice-eating

populace of the Far East at the same time as the introduction of mechanical milling. By this process the outer layers and husk of the seed are removed with the embryo. It was discovered that the disease could be cured or checked by the addition of the "polishings" to the diet or by the consumption of the whole grain. This was ascribed to the water soluble vitamin B, and a similar disorder called polyneuritis was produced in rats by the omission of yeast from a diet containing an adequate supply of the other vitamins. The other important deficiency diseases are scurvy and rickets, both of which will be dealt with later. These diseases increased enormously the importance of the work of Hopkins and his successors and led on to further efforts, so that the existence of at least five vitamins is now definitely established :—

Fat Soluble A	Growth Promoting
Water Soluble B.....	Anti Beri Beri or Antineuritic
Water Soluble C.....	Anti Scorbutic
Fat Soluble D	Anti Rachitic
Fat Soluble E	Reproductive

For a long time D and E were closely associated and believed to be identical with A, but recently they have been separated by physical means. Their distribution is indeed markedly different. To quote J. C. Drummond in the *Lancet* of January, 1926 : "Recent research has justified McCollum's statement that two fat soluble vitamins occur in cod liver oil—A, Growth promoting, and D, Anti Rachitic—affecting the deposition of calcium in the bones and giving rise to the symptoms of rickets.

"The Vitamin E of H. E. Evans is also fat soluble, and plays a part in reproduction."

It is now generally believed that absence of the vitamins is not only responsible for certain definite diseases, but that insufficiency of one or more may be the cause of general ill-health and susceptibility to disease. This is perfectly well shown in experimental animals, and in man it is well known that under-nourishment or lack of variety in the food may give rise to vague feelings of depression and general ill-health, without bringing about any specific disease. It may be argued that the ill effects of this under-nourishment are due to insufficiency of proteins, fats and carbohydrates. This is, of course, partly true, but where the supply of these is adequate—even much more than adequate—ill-health may result, particularly when the diet contains foodstuffs commercially treated by methods which destroy wholly or in part the vitamins present. The recognition of this fact is becoming increasingly important with the enormous multiplication of commercial preparations as substitutes for cruder or more natural products. It is being realised more and more that these factors are of great importance, but before their significance is fully determined much more must be learnt about their chemical nature and the actual effect that they have upon the functions and activities of the various parts of the body.

The vitamins are then organic substances which are necessary in small but definite amounts for the maintenance of normal life. They have been compared to the secretions of the ductless glands. They reinforce these in certain of their actions, notably that of E on reproduction. A recent work has pointed out that bone marrow and blood contain more of vitamins A and B than the other organs in the body. This would tend to support the conception of them as "food hormones," exerting their influence, as do the internal secretions, by travelling around in the blood. It should be noted, however, that the vitamins A and D would naturally associate themselves with the blood, since their actions are concerned so directly with the composition of that fluid. I mean that vitamin A, the growth promoting factor, will be essentially concerned with the supply of nourishment to the tissues, while vitamin D, the anti-rachitic factor, is concerned almost entirely with the state and amount of calcium in the blood.

Again, the effect of the anti-rachitic vitamin D can be replaced by treatment with ultra-violet light, although this is now generally believed to be due to the actual synthesis of vitamin D from cholesterol in the subcutaneous tissues of the organism. One great difference between the actions of the vitamins and those of the internal secretions is that excess of the latter leads to increased action ; excess of insulin given to diabetics may result in acute symptoms ending in delirium and finally coma. Excess of vitamins can only result in the normal activity of the functions regulated by them. If more than a certain maximum of the vitamins is taken in, the excess is excreted in the urine, whilst however much more is consumed no abnormal results make their appearance.

Another view was that they behaved as ferments, exercising a specific catalytic action on certain processes. This view was advanced at a time when it was believed that they were destroyed by heat. It is now known that anyway vitamin B does not behave like a ferment, being present in fairly large quantities in biscuits and other cooked foods. The resemblance to the enzymes or ferments is, then, only slight, but there is still much to be said for the view that they act as catalysts to the oxidative and other metabolic processes.

Vitamin B is said to have a profound effect on the appetite, and the action of Vitamin E is explained partly as such, producing a better appetite

and therefore better nourishment and increased vitamin supplies. In part, however, it acts as a direct stimulant to the organs themselves.

It must be remembered, however, in considering the mode of action of these vitamins that they are not only inter-dependent with each other, but also that symptoms of deficiency are almost invariably associated with decreased activity and utility among the other constituents of the diet. In treating the vitamins as separate entities it must be realised that although they may be chemically distinct, symptoms found in deficiency of one may be due to inability to make full use of others. In fact, it is the presence of all the known vitamins in the requisite amounts as well as the other dietary constituents that is necessary for the normal growth of the individual and the successful performance of the process of reproduction.

Before discussing more fully the individual vitamins, I will give you a brief summary of the present state of our knowledge of the chemical composition and formation of these bodies. Here most of our knowledge is confined chiefly to the fat soluble vitamins, with which I will deal collectively. This vitamin is found extensively in certain marine diatoms, which are believed to synthesise if from inorganic materials. These form the food of small marine organisms, which, in turn, fall prey to larger species, whence the cod derives its large source of the vitamin. It is also found extensively in green plants. It has been definitely shown that the formation is absolutely independent of chlorophyll or other colouring matters. In fact, it has been proved that a substance possessing properties similar to the anti-rachitic fraction of fat soluble vitamin can be synthesised by the action of ultra-violet light on purified cholesterol.

Vitamin A is recognised by a blue purple colour given with concentrated sulphuric acid, and this method has been found to be much more reliable and less tedious than the older animal-feeding tests on rats and guinea-pigs, so enabling experiments to be made more rapidly and more effectively. Vitamin A is rapidly destroyed by oxidation, while the anti-rachitic factor is much more stable. By careful fractionation and extraction with various solvents an active fraction can be obtained containing only carbon, hydrogen and oxygen. It was at one time believed to be an aldehyde, but although this has been disproved, its real nature has not yet been finally established.

Vitamin B is believed to be a pyrimidine base, but this view lacks any real confirmation.

Vitamin C lemon juice by an extensive chemical fractionation has been reduced to .03 per cent. of the juice with no diminution of active properties.

I now propose to deal individually with the vitamins and the effects attributed to their deficiency, principally in man. I will then conclude with a general summary of the application of the physiology of the vitamins to problems of regulation of diet and preparation of foodstuffs.

Fat Soluble Vitamin A is the active factor necessary for the natural growth and metabolism of the body. Its chief source in ordinary dietaries is cow's milk, but the discovery of cod liver oil as an effective source has proved of immense value, this latter being used extensively to supplement the ordinary food, particularly in children, after illnesses, when increased " building up " is desirable. The cow derives its supplies of the vitamin from the grass and other green plants composing its diet, so that it is much more plentiful in milk from summer pasture cattle feeding on fresh grass. The vitamin is destroyed by oxidation, though fairly stable to heat. The decomposition is definitely slow at 100° C., so that good supplies are not rendered useless by such processes as cooking, canning or drying. One important point to be noted is that, unlike vitamin B, it can be stored in the body for some time. This is a point of importance, firstly in experimental work on animals, and, secondly, because it must be borne in mind that vitamin B must be supplied regularly in the food to prevent effects of deficiency occurring. The chief action of vitamin A must be described as a stimulant to growth and general metabolism. Lack of it causes slower growth and a general increase in susceptibility to disease; the lower resistance is said to be due to an observed diminution in the number of blood platelets. Another symptom of great importance in experiments on animals—chiefly rats—is that of xerophthalmia, an affection of the eyes. This is said by some to be only another example of increased susceptibility to disease, but it is often regarded as a definite deficiency disease. A similar condition has been observed in children. An outbreak in Japan was cured by chicken liver, and one in Denmark by cod liver oil.

Besides cod liver oil and milk other important sources are butter fat, beef fat, spinach, liver and kidney. (In plants the best parts are thin green leaves, growing stems and the embryo—endosperm and storage organs being poor). Milk and green leaves are often classed together as protective foods on account of the presence in both of the vitamins A, D and E and calcium.

Water soluble vitamin B is the anti-neuritic or anti beri beri factor. It is found in cow's milk, from which it is lost by drying. The chief source is, however, cereals, where it is found only in the husk and gum, which are removed in the commercial processes of milling. This was done in the

Far East with rice and brought on epidemics of a nervous disorder, beri beri, to which I referred in an earlier part of this paper. It is also done in the preparation of white flour.

It is present in smaller amounts in all parts of vegetables and fruits, but considerable quantities of these are necessary to give an adequate supply. Since it is not stored, it must be taken regularly in reasonably large amounts. It is fairly stable to heat, but less so than vitamin A. It is destroyed in commercial sterilising, but not in ordinary boiling. Since, however, it is soluble in water it will be lost if the water in which fruit or vegetables are cooked is thrown away.

Its chief action is said to be upon the nervous system, as is evidenced by the symptoms of its deficiency. It has been described also as stimulating the digestive tract and the appetite, increasing the endocryne activity and the muscular tone, dilating the blood vessels and lowering blood pressure, its behaviour being then closely analogous to that of pilocarpine. Further, an effect has been observed of stimulation of carbohydrate metabolism. According to Findlay, in deficiency the " Glyoxalase content of the liver is reduced and the oxidative mechanism is overloaded by energy-producing food." It has been described as a nucleoplast, playing an essential part in nuclear metabolism. Lastly, in beri beri Nissl's granules disappear and reappear on treatment, indicating a profound effect on the nervous system. Thus, while the occurrence of such an extreme form of deficiency as would cause beri beri is hardly possible, general national loss of stamina may easily result from excessive use of preserved and commercially prepared foodstuffs.

Recently several attempts have been made to separate this vitamin into two distinct factors, as had been successfully done with the original vitamin A. The results have not yet been confirmed, but it seems probable that a definite anti-neuritic factor is present, as well as a substance exercising an effect on growth similar to that of vitamin A and an effect on reproduction similar to that of E.

Water Soluble Vitamin C, the anti-scorbutic factor, differs widely in its distribution, but has an action very similar to the combined effects of A and B. In the rat, a species which is not susceptible to scurvy, it produces better growth, higher stamina and a general increase of vitality. In man its absence produces scurvy, which, thanks to our knowledge of vitamin C derived from experiments on guinea-pigs, has practically died out. The disease is brought about by lack of fresh fruit and vegetables. The anti-scorbutic factor is most plentiful in oranges, lemons and tomatoes, and, to a lesser extent, in all other fruits and green vegetables. It is absent from seeds, but is formed if grains are allowed to germinate, a fact which might have saved the lives of thousands of sailors who contracted the disease on long voyages with cargoes of dried seeds aboard. It is rather easily destroyed by heat, much more so in the presence of alkalies, while acid preserves it. Hence, tinned meat is devoid of vitamin C, while tinned tomatoes are rich in it, partly due to the less severe treatment, but to a larger extent due to the acidity of the tomatoes themselves. In unsweeetened milk it is destroyed, but in condensed milk it is preserved by the sugar. In an extreme form deficiency produces scurvy, which is characterised by eruptions of the skin and hæmorrhages under the skin, gums and mucous membranes.

Fat Soluble Vitamin D, long identified with and still associated with A, is the factor concerned in the prevention of rickets. Its distribution is similar to that of vitamin A, but is less plentiful in eggs, cod liver oil, milk, cereals and vegetables. In milk its presence depends upon the sunlight to which the animal is exposed, since it can be synthesised from cholesterol. The vitamins A and D are also similar in their resistance to heat, but the anti-rachitic factor is much more stable to oxidation processes. Its action is the prevention of rickets, but the effect is much more complicated than those of the anti-neuritic and anti-scorbutic vitamins.

Rickets is a disease widely prevalent among young children. It is accompanied by general ill-health, anæmia and flabbiness of the muscles, particularly of the abdomen. The essential feature is the defective calcification of the bones. The bones of the limbs become bent, producing a characteristic deformity, particularly in the legs. The epiphyses enlarge and the epiphyseal lines become thickened and irregular. From a physiological point of view we must consider the question of calcification. Defective bone formation might be due to several factors :—

(1) An insufficient supply in the diet ;
(2) An insufficient supply in the blood ;
(3) Inability to make use of this supply.

Rickets may be due to any of these. I do not propose to deal with the actual mechanism by which calcium is absorbed into the circulation and transferred to the tissues. An insufficient supply of calcium in the food may be the prime factor in late or adolescent rickets, but in the majority of cases it is relatively unimportant. Mellanby, in a series of experiments on puppies, found that rickets may be brought about by :—

(1) Absence of the fat soluble vitamin D ;
(2) Absence of meat ;

(3) Absence of calcium ;
4) Excess of bread and cereals and carbohydrates.
(5) Excess of the protein part of caseinogen free from calcium.
(6) Confinement and lack of exercise.

In the consideration of human rickets undoubtedly the chief factors are calcium and vitamin D. The effect of meat and excess of bread are comparatively unimportant, but the question of carbohydrates and of the composition of milk is relevant. It is safest not to interfere with the proportions present in the natural food. Rickets can be produced by feeding children with milk preparations where this balance has been upset or where the vitamin has been destroyed. It is even possible that rickets may be due in some cases to the early use of cow's milk in young children. The last may be deficient in vitamin D, but more probably it is the different proportions of other constituents present which have this effect. It certainly is produced by substituting other more easily obtainable substances for cow's milk in the later stages. Reverting to Mellanby's puppies, it was found the meat in moderate amounts seems to supply some stimulant or controlling factor, but this can be replaced by vitamin D. Bread appeared to produce an effect directly antagonistic to that of the vitamin. None of these effects are directly understood, but the experimental facts should make very clear the importance of regulation of diet, or, rather, the danger of using commercial processes which interfere with natural foodstuffs without a thorough understanding of the results of such interference.

Vitamin E is closely related in chemical and physical properties, and distribution to the other fat soluble vitamins. It can be definitely isolated as a distinct substance and exerts a specific effect on the processes of reproduction. Complete deficiency in rats causes complete sterility—insufficiency reduces greatly the number and the health and strength of the offspring. In man it is equally essential, although its precise action is very difficult to determine. The only practical point of importance is that women during pregnancy or lactation require a larger amount than usual of the fat soluble vitamins.

Before discussing briefly the importance of these facts, I must insist once more upon the interdependence of the vitamins amongst themselves and with the other constituents of the diet. We are as far from any real knowledge of the action of these substances as we are from any real understanding of the actions of many drugs, or of the internal secretions. The many complications make experiments difficult and the results hard to apply, particularly to man. It must, however, be fully realised that the vitamins are part of our food—*an important and an essential part, but they are entirely secondary to the ordinary proteins, carbohydrates, fats and salts.* Rickets cannot be produced in a starving animal. Great as have been the results of the discovery of the vitamins as causes of deficiency diseases, there is always the danger of magnifying their importance. The advertisers of patent preparations talk in alluring terms of the vitamin content of "Vimax," or whatever sparkling title they choose for their product. Many such commodities are valuable, particularly amongst the poorer classes, but I must refer again to the conception of the vitamins as ferments. In their essential action they are ferments, because they can do nothing alone. They will only assist and regulate actions already taking place, but in several important points the resemblance fades away. Their action is not unlimited ; they are necessary in small but definite amounts. To illustrate this it has been pointed out by an eminent physician that if Marmite is given to children on bread, they get twice as much vitamins from the bread as from the Marmite, and, at the same time, bread contains proteins, carbohydrates and fats. Man cannot live by Marmite or Beemax alone any more than he can live by carefully removing the vitamins from his food. This, indeed, must be regarded as the greatest danger of all. It is in the preservation of foods that the vitamins are destroyed in immense quantities. Some may argue that such preservation is an economic necessity. I say that it is a physiological necessity to eat, and an economic advantage to be healthy. At present all our food grows. Our food is the only factor essential in our existence that can go bad—and yet nations congregate where they can get any other advantage and leave wide tracts of pasture land unpopulated, spending and wasting time and energy in transport and destroying the vitamins to preserve the other factors. I am not saying that we should return to the jungle—that we should do without luxuries—but that the importance of fresh food should be realised whilst we are possessed of bodies which are minutely adapted to the consumption of the natural foodstuffs.

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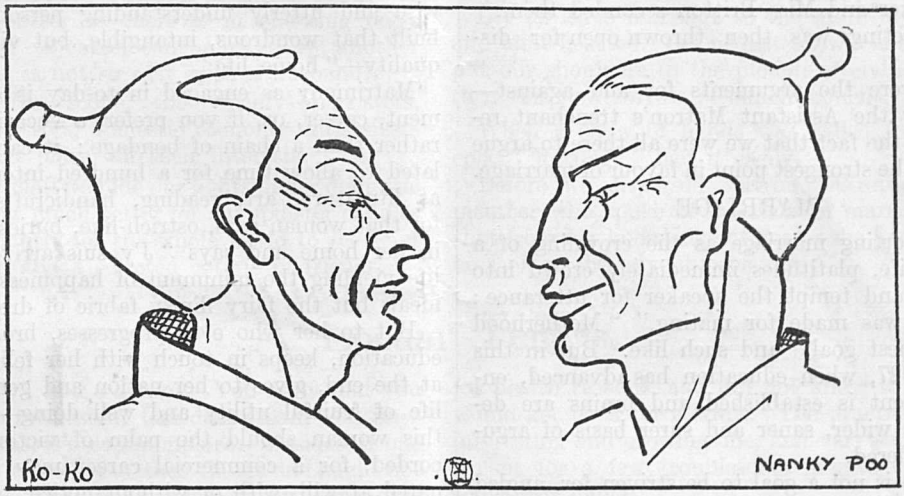
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A SELECTION OF THE JAPANESE NOBILITY

Nursing News.

A Debate in the Nurses' Home.

THE most retiring of the societies of the Nurses' League is the Debating Society. Rarely does it assert itself; in fact, until a few weeks before Christmas one might have been excused from thinking it was only a rumour that such a body existed. However, we were much impressed by the able orators who got to work one night on "A Career *v.* Marriage." There was a good audience, including the Matron and many Sisters.

Miss Taylor (Sister Florence) opened proceedings from the Chair. She thought we should hear some epoch-making remarks on such a vital problem. She only hoped the debate would not cause any broken engagements or shattered careers. She called on Miss Barratt to read a paper in support of "Marriage."

Miss Young read a paper on "A Career," and Miss Bowker and Miss Britton seconded them.

The meeting was then thrown open for discussion.

Many were the arguments for and against—capped by the Assistant Matron's trenchant remark that the fact that we were all there to argue at all was the strongest point in favour of marriage.

MARRIAGE

In supporting marriage as the crowning of a woman's life, platitudes immediately crowd into the mind and tempt the speaker for utterance: "Woman was made for mating," "Motherhood is the highest goal," and such like. But in this year of 1927, when education has advanced, enfranchisement is established and brains are demanded, a wider, saner and surer basis of argument is offered.

Marriage is not a goal to be striven for, angled for, and, finally, won, whereupon the breathless woman resting on her laurels may sit in pitying wonder and applaud or condemn the efforts of other less fortunate competitors. No, marriage is but the momentous commencement of a great task—the most arduous and taxing career ever undertaken.

Preliminary training—whether it be nursing, accountancy, domestic, science or art—is invaluable to the housewife, who is thus enabled to apply her knowledge to life in its most practical sense.

Knowledge of £.s.d. well applied runs the household economically and satisfactorily, while her modern theories of hygiene and psychology worked out in the nursery produce healthy children, whose physical and mental environment are such as to fit them for sane and successful citizenship in the fulness of time. Hers it is to contribute one way or the other—for good or ill—to the Empire, for while the truism "the hand that rocks the cradle rules the world" has now become a peg for humourists to hang their alleged wit on, and for music hall mummers to sentimentally wail over, yet its profundity and verity remain. For who shapes the early mentality of the future voter? Who most profoundly influences the adolescent mind? Who most often inspires, encourages and strengthens the younger students after knowledge, whose is the glory of bearing men and women found worthy to widen, uphold and glorify the bounds of our most glorious Empire? Surely none but she whose gracious, wise and utterly understanding personality has built that wondrous, intangible, but vividly real quality—"home life."

Matrimony as engaged in to-day is an instrument, career, or, if you prefer, a vocation of use rather than a chain of bondage; it can be regulated to allow time for a hundred interests such as literature, art, reading, handicrafts, travel; for that woman who, ostrich-like, buries her head in her home and says "J'y suis arrivée" finds life yielding the minimum of happiness, and her ideals but the fairy flimsy fabric of dreams.

But to her who ever progresses, broadens her education, keeps in touch with her fellows, and, at the end, gives to her nation and generation a life of fruitful utility and well doing—surely to this woman should the palm of victory be accorded, for a commercial career may be terminated at will, with or without notice, but to her whose career is ratified at the altar comes the more definite decree—"let no man put asunder."

CAREER

Nowadays one may say a "career" is synonymous with a "vocation." That is a great acknowledgement, you will admit.

Even at school, at a tender age, inquiries are instituted as to what "career" is to be taken up. There is therefore now a more wholesome outlook. At 18 one is no longer striving to be doll-like and amiable—one is to an extent hard-headed and independent.

There is the necessity in this century, in these years after the war, for educated women, for

women with a broader outlook and professions well learnt. Surely this is all to the lasting good of the race. What an improvement in "social joys," as it were, say by 1950; what an advance in culture, in brotherliness, all brought about by the light of the mind feminine intelligently used—not by the light of mere human affections! The centuries give no evidence of advance in that way, except perhaps for easier divorce.

That is for the mass. Think of the individual. An ordinary girl of quite ordinary origin may end up as a woman of high degree; for instance, in the nursing profession, given understanding, a sense of humour, and excellent health. Whereas she might, even in this year of grace, have had to drag on a weary existence, cherishing her aged and chiding parents—chiding because she is not married—or perhaps she is married to the world's most ordinary man, looking after half-a-dozen ordinary children, peeling ordinary potatoes, and so ad *infinitum*. What a difference!

What opportunities to discover hidden talents! What discoveries one makes in taking up an absorbing career! There is not the danger in choosing a career as there is in choosing one's life's partner. A career can be given up, another chosen—that is not so easy with a husband.

Consider the scope, the variety—barristers, doctors, professors, domestic economy enthusiasts all have their place, all their interests.

No longer shall we hide our lights under domestic bushels. How much better for our spinster candles to gleam brightly for the whole world to see—not for one man and a selected coterie of friends.

Think, too, what this breaking away from so inevitable, so ancient a rule means to our sisters abroad. The more we depart from a circumscribed tradition the braver their spirits and their efforts to break down the appalling seclusion and thwarting of centuries. Such is marriage in some lands, as we know.

We must, too, remember that most devastating fact revealed by a recent census. Our superfluity. Horrors, that this should ever be breathed!

What a chance we have now to show that women are truly men's equals—intellectually and from a general working standpoint. It will raise the standard of culture of the individual. That is a great thing for a soul is a soul.

Marriage too often means subversion for the feminine soul.

Take, for a good instance, the advantage of our own profession, our own half-planned or completed careers. The absorbing interest of hospital life, its call on every emotion, its establishment of control where no control was, its strengthening perhaps of ideals. Consider the opportunities after training—in England, and especially abroad.

Let us leave marriage to the more lily-handed and faint-hearted. Let us instead whole-heartedly put our shoulders to the plough of civilisation to turn this new furrow of enlightenment.

When a show of hands was called for at the end, "Marriage" had it easily.

Before we dispersed Matron, in reply to the member who spoke of the risks of marriage, said that from her knowledge of nurses she had noticed no lack of the adventurous spirit.

A Locum Tenens.

LAST night I had a dream. You reply that you are not interested. One does dream—it's physiological, it's commonplace. Besides, if one presumes to write about such things one ought not to announce so until the last line, when, depending on the raconteur, it ought to come as a startling denouement.

Admitting all, I throw myself on your charity. Please read on.

I dreamt I had a locum tenens at 10, Downing Street. I had asked for a locum in the Medical School Office and had been told that the only one available at the moment was the banal practice of the Prime Minister. I would have to find my own lodgings and would get the usual remuneration, plus a percentage of the import duties on unripe fruit and over-ripe oysters.

The Prime Minister said I would do, and explained that he was going to the country soon for health reasons, and did not know whether he would get back for a while. The practice was an interesting and growing one, and very satisfactory except for a few troublesome mental cases and some bad debts.

He knew that we young men were inclined to be too liberal and independent, and he advised me to adopt a policy of conservatism that had stood him in good stead for a number of years. He did not wish to cast aspersions on his more liberal colleagues, but he felt that their methods often lead their patients untimely to the dust, whence they came "back to the land," as he expressed it. He warned me against his only lapse of recent years, referring to the case of Lizzie Flapper, in whom his treatment had brought on a delusional insanity of the grandiose type. I should avoid her altogether.

His midwifery practice was troublesome—the question of labour always puzzling him. High-brow and Court presentations, of which I confessed total ignorance, seemed to be very prevalent among his clientele. At the moment he was very anxious about the Faversham Constituency, whom he had been treating conservatively, but whom he feared he would lose.

He suggested that I was wary with Mrs. Thames, who appeared to be of no fixed abode, but could generally be found round about the Embankment. She was prone to suffer severe monthly floodings.

A few other cases needed constant attention, notably the Pernicious Anæmia of Westend Stage, the chronic congestion of Tube-Railway, and the acute mania of Dora. He still had a few cases of that new epidemic of hare-racing consumption, which appeared to be a more malignant form of the galloping variety.

At this juncture the telephone rang and the Prime Minister got up to answer it. "Mother Faversham all right," he shouted. "A near thing, though." Then I woke up.

BILLY VERDIN.

Vale !

(Being a Patient's lament on the occasion of leaving Bright at the end of a long illness)

THE doctor says—alas !—that I
Can leave this week—I'd like to cry !
He thinks my wound will surely be
Quite healed by Saturday—woe's me !
He calls my progress "gratifying."
I'd sooner hear that I was dying !
And has it come at last to this ?
And must we wipe our eyes, and kiss,
And part, and never meet again ?
Must I to the harsh world of men
Return indeed ? Once more essay
Through life's dim wood to find a way ?
Oh, sure, I leave Contentment here,
Security and quiet dear.
Oh, sure, I not again will find
A haven so much to my mind—
Nor, though I search a hundred places,
Such friendly, kindly, genial faces.

R. S. B.

Correspondence.

Inter-Hospital Boxing Competition.

DEAR SIR,—May I trespass upon your space once again to correct a statement in the last issue of the GAZETTE ? The date of the Inter-Hospital Boxing Competition was there stated as March 5th or 6th. However, the N.S.C. could not let us have the hall on either of the above dates, and the Competition has been postponed to March 13th.

Yours faithfully,

R. N. C. SMITH,
Hon. Sec., G.H.B.C.

Guy's Hospital, S.E.1.
February 1st, 1928.

Adrian Stokes Memorial Fund.

DEAR SIR,—There must still be many who intend to subscribe to the Adrian Stokes Memorial Fund, but who have not yet done so. Would intending subscribers please forward their contributions as early as possible, as the precise character of the Memorial cannot be determined until the total amount of the fund is known. I append a list of subscriptions received to date.

Yours faithfully,

T. B. JOHNSTON,
Dean.

Medical School,
Guy's Hospital,
London Bridge, S.E.1.
February 6th, 1928.

	£	s.	d.
Perviously acknowledged	350	15	6
The African and Eastern Trade Corporation, Ltd.	100	0	0
Anonymous		10	0
Anonymous	10	10	0
Anonymous	25	0	0
The Ashanti Goldfields Corporation, Ltd.	52	10	0
Mrs. L. Boxwell	100	0	0
Dr. L. W. Cann	2	2	0
Dr. H. C. Cameron	10	10	0
Dr. J. M. H. Campbell	2	2	0
Dr. R. Hunt Cooke	2	2	0
Professor J. W. H. Eyre	2	2	0

Mr. and Mrs. C. H. Fagge	£25	0	0
Dr. R. B. Fawkes	1	1	0
A. L. Ferguson, Esq.	21	0	0
T. O. Garland, Esq.	2	0	0
Professor C. S. Gibson	5	5	0
The Guardian Assurance Co., Ltd.	21	0	0
Dr. H. E. Harding	5	5	0
Professor T. B. Johnston	21	0	0
The Kaduna Syndicate, Ltd.	5	5	0
Dr. F. A. Knott	3	3	0
O. G. Morgan, Esq.	5	5	0
J. Lewin Payne, Esq.	15	0	0
Dr. E. P. Poulton	25	0	0
Mrs. R. S. Rait Kerr	2	10	0
G. W. Rake, Esq.	5	0	0
Miss M. Ellis Rowell	1	1	0
R. P. Rowlands, Esq.	25	0	0
E. G. Slesinger, Esq.	5	5	0
F. J. Steward, Esq.	21	0	0
H. L. Stokes, Esq.	10	0	0
J. K. G. Way, Esq.	1	1	0
Dr. H. W. Webber	2	2	0
The Rev. Kingsley Williams	10	0	0
Dr. J. Fawcett	5	5	0
	£901	11	6

A complete list of subscriptions will be published at a later date.

"Sleep."

DEAR SIR,—In my article on "Sleep," recently published in your columns, I stated that it was inadvisable to prescribe Veramon and Medinal together, since although the former was primarily an analgesic it also contained diethylbarbituric acid, which is, of course, the hypnotic principle of Medinal, and therefore one might unwittingly prescribe a double hypnotic dose. My attention has since been called to some pharmacological work of which I was unaware. by Starkenstein of Prague and also by Magnus of Utrecht, which seems to show fairly conclusively that in Veramon, which is a compound of veronal and pyramidon, the hypnotic effect of the former component is more or less cancelled by the pyramidon, by virtue of what appears to be a physiological antagonism. The danger I anticipated would therefore appear to be very slight, or even non-existent, but I have not prescribed Medinal and Veramon together, and so I cannot personally vouch for the clinical results.

Yours faithfully,

R. D. GILLESPIE.

152, Harley Street, W.1.
January 24th, 1928.

Reviews.

The Health of the Nation. By F. E. FREMANTLE, with a Foreword by the Rt. Hon. NEVILLE CHAMBERLAIN. 1st Edition, pp. xii+209. Published by Messrs. Philip Allan. *Price* 8*s.* 6*d.*

THIS book, by a distinguished old Guy's man, is a comprehensive short survey of the activities directed towards the physical well-being of the British race. It is written in language which should be clear to most laymen, in a style generally lucid, but occasionally lapsing into "journalese."

It is not intended, and would be useless, as an aid to passing examinations in Public Health, but it should be both useful and interesting to all who think that the health of the nation is as important as its politics or its morals.

The subjects discussed are many and varied; there are concise accounts of the history of Public Health administration, the Insurance Acts, the incidence of disease in Scotland and ante- and post-natal work.

In such a book as this figures are inevitable, but it seems a pity to spend a chapter on an attempt to translate health into terms of cash; besides being of doubtful value such a display of figures gives a false impression of accuracy.

In describing the many activities by which death and disease are being prevented, Colonel Fremantle draws an impressive picture of the triumphs of applied science, and he conscientiously points out paths along which further progress may be made.

The Constitutional Factor in Disease. By ARTHUR F. HURST, M.D., F.R.C.P. Psyche Miniatures Medical Series. Published by Messrs. Kegan Paul, Ltd. *Price* 2*s.* 6*d.*

WE first made the acquaintance of Psyche Miniatures by reading E. Miller's excellent little book on *Types of Mind and Body*. The present volume, contributed to the series by Dr Hurst, forms an admirable continuation of the same theme, namely, the scientific basis of diathesis. In this case the author has avoided the more general aspects of his subject and purposely confined his attention to the smaller field

composed of diseases in which he has long been especially interested. Thus we find, in the first place, a discussion of the anatomical and physiological basis of the gastric diatheses founded on Dr. Hurst's earlier work concerning X-ray appearances in the alimentary canal. This is followed by a complete account of the interesting condition of achylia gastrica, leading up to the formulation of a well-defined constitutional basis in the Addisonian anæmia, subacute combined degeneration of the cord, Hunterian glossitis syndrome. The relative importance of constitution, pregnancy and infection in cholelithiasis is next discussed, while brief consideration of diabetes, variations in the reaction of the urine and blood pressure lead up to the final chapter on constitutional factors in asthma, epilepsy and migraine.

In a matter of 90 or so small pages we are given a clear account in unassuming style of the main features of the movement away from the pigeon hole and toward a new conception of the diathesis that has become so prominent in the medical teaching of more recent years—a movement that appears to have considerable significance in the immediate future of medicine as connected with the application of statistical and anthropological methods of investigation.

In our experience most medical men are apt to talk a good deal of "shop" in their spare time. To those who are not above the devotion of a little of their leisure to reading "shop" as well, we heartily recommend this inexpensive volume, which incidentally is dedicated to the memory of the late Professor Stokes.

Handbook of Diseases of the Nose, Throat and Ear. By W. G. Syme, M.D. Published by E. & S. Livingstone. *Price* 12*s.* 6*d.*

THIS useful book has now reached a second edition, in which a complete revision of the original and the introduction of a certain amount of new matter has been accomplished. The author has in every way carried out his declared intention of appeal to the student or general practitioner rather than the specialist, and the work suitably embodies his own wide experience of nasal, aural and laryngological practice at a large general hospital.

Traditional lines are followed in the arrangement of the subject matter, a descriptive rota of examination, diagnosis and treatment being followed in each of the three main sections and all the commoner conditions met with in general practice are dealt with adequately. We found the illustrations mainly of excellent quality, if not great in number; we thought, however, a few of the drawings included in the aural section not too good and somewhat carelessly lettered. In compensation the type used throughout the book is exceptionally clear and the various headings are in strongly printed contrast, both points which make for easy reading. The recommended treatments are in no way freakish and the concluding chapter on formulas should be of great use to many of those in practice, whose early training did not comprise a full course of work in the special departments.

We feel that in spite of the number of coloured plates included, the book is somewhat expensive, but have no hesitation in saying that it is well worthy of a place on the bookshelf of any student or practitioner.

A Handbook of Ophthalmology. By Humphrey Neame, F.R.C.S., and F. A. Williamson Noble, F.R.C.S. Published by Messrs. J. & A. Churchill. *Price* 12*s.* 6*d.*

THIS book should serve to fill an as yet unoccupied niche in the wide range of volumes now available on the subject. The authors steer a skilful course between the book for the specialist and the book for the student, and as carefully they preserve a correct balance between the medical and surgical aspects of eye work.

Having dealt fully with the clinical examination of the eye, they pass with no little success to the difficult subject of refraction. Graphic rather than mathematical illustrations are relied upon in this section, a choice which seems to us sound in every way. The diseases of the various parts of the eye are then dealt with in detail. Discussion is confined to the more common affections likely to be met with by the student or general practitioner, and the opinion expressed in most cases conform to the generally accepted teaching.

Differential diagnosis of various eye conditions such as iritis and glaucoma or types of cataract gains considerably from presentation in a summarised form. The mechanism of the ocular muscles is adequately dealt with and surgical procedures in common use are well described. The concluding chapters concern eye changes in general diseases and a summary of therapeutic methods as applied to the eye.

The illustrations, of which there are over 200, seem beyond reproach in reproduction, and are carefully placed with reference to the text. The coloured plates of retinal conditions should prove exceptionally useful. We have no doubt that this volume has a considerable future as a standard text book, and can confidently recommend it as more than worth its moderate price.

Sport.

Rugby.

Guy's *v.* Aberavon.

FOR their home match with Aberavon on Saturday, January 21st, Guy's were without Garland (who travelled with the English team as first reserve against Wales) Mostert, Simpson-Smith and Preen. Eustace deputised for Garland, Ive took Mostert's place on the wing, and Ryan continued at fly half; Hogbin completed the forward line. Aberavon, with the exception of Jenkins, were practically at full strength. The ground was in a very bad state, and at the finish both teams were covered in mud from head to foot and were scarcely recognisable.

However, despite the conditions, some very interesting football was seen, and the visitors, who played a snappy game throughout, thoroughly deserved their win. By way of a change, the Welsh forwards were superior to our pack, an advantage which gave Tal Harris, their International scrum half, numerous opportunities to open up the game. Harris always had the better of Eustace, and was the chief factor in his side's success. Whenever he secured the ball he was constantly a source of danger to the Guy's defence. He was always quick to seize the slightest opportunity, and when covered in mud he wriggled his way through like an eel. At full back Walters was very safe and kicked with splendid judgment.

Kicking off with a slight breeze in their favour, Guy's at once attacked, and Ryan found touch near the corner flag. From the scrum that followed Walters relieved, but the visitors were penalised and driven back to their 25. A bout of passing between the Aberavon threes broke down when Ryan intercepted a pass from Roberts to G. Davies and followed up with a punt, which Walters accepted. The visitors were penalised three times in quick succession, but owing to the heavy state of the ground Durr was unable to score. A fine passing movement between F. H. Spence, Ryan and Robinson was spoilt by a forward pass. After Hogbin had checked a forward rush, the visitors again broke away with the ball under perfect control and W. Owen opened the scoring for Aberavon near the posts, the kick at goal failing.

Aberavon pressed immediately after the kick off and Thomas, when faced by Spence, tried a short punt, but the latter beat his man and cleared with a fine kick. Lewis then intercepted a pass, and, following up a kick ahead, compelled the visitors' full back to kick wildly. Durr was on the spot, but he was thrown into touch by the corner flag. It was not long before the visitors again broke through with our defence all at sea. Aberavon forced a scrum underneath the posts and, following some smart passing, scored very cleverly, for Walters to add the necessary points.

Stung by this reverse Guy's pressed heavily, but the Aberavon defence was equal to all demands, although at times they were a trifle lucky to keep the home side out. A fine rush by the Guy's forwards carried play to the visitors' goal line, and Walters was compelled to touch down. Midfield play followed, with the exchanges even, and Guy's crossed over 8 points in arrears.

Immediately on resuming P. D. B. Spence saved and, instead of kicking, he raced through the opposition before giving to his brother. Lewis and Durr carried on the movement, which was only checked in the visitors 25. The Guy's fowards made another fine dribble, but were again held up on the line.

A breakaway by Aberavon compelled P. D. B. Spence to touch down, and from the kick off Robinson made a lot of ground before he was brought down. Durr followed with another good run, but the marking of the Welsh side was very accurate and deadly.

Just when a score for Guy's looked certain Aberavon dashed away through Pugh, Owen and Roberts, and the latter was able to cross our line for the third try.

There was no further scoring, and thus Aberavon triumphed by 1 goal and 2 tries (11 points) to 0. Taking into consideration the conditions that prevailed, Guy's came through well. They were distinctly unlucky in not scoring on two or three occasions—even when they were 11 points in arrears they never gave up trying, and it was only the extraordinary good tackling of the visitors that kept them out. Popplewell, Scholefield and Durr were all hard workers in the pack, whilst Ryan and P. D. B. Spence were the pick of the backs.

Guy's Team—P. D. B. Spence; T. G. Robinson, A. J. D. Lewis, F. H. B. Spence, O. Ive; R. J. Eustace, D. F. Ryan; J. R. F. Popplewell, W. H. Myburgh, G. G. Cameron, J. Durr, B. G. Scholefield, J. H. Cullinan, C. D. Malone, R. A. P. Hogbin.

Guy's *v.* Gloucester

ON Saturday, January 28th, Guy's visited Kingsholme, and in bad weather gained a meritorious victory by 2 tries (6 points) to 1 try (3 points). For the greater portion of the game it was a strenuous struggle between the rival

packs, in which the Hospital forwards, who lasted better, prevailed. The ground churned up very badly as the game progressed, and the conditions told so heavily on the men that they practically played themselves to a standstill.

The back division, ably supported by the forwards, kicked stronger and with better judgment than the home side; in fact, the Hospital backs were always ready to seize the opportunity to open up the game by judicious passing, and frequently had the Gloucester defence in a tangle. There were occasions when the City men took command, but P. D. B. Spence, although frequently tested, was seldom found wanting.

Garland with his strong bursts was always a source of danger to the opposition, and in Ryan he found a partner who was always ready not only to accept his passes but to create openings for the threes. From the first scrum Garland broke away on the blind side and fed Mostert, who dashed away and passed nicely inside. The ball came across the field beautifully, but Lewis failed to take the final transfer, and Gloucester saved.

Following some loose mid-field play and a sharp attack by the Hospital forwards, Gloucester broke away, only to see P. D. B. Spence save splendidly 10 yards from the goal line. A penalty to Guy's brought temporary relief, but E. Stephen gathered and, after a beautiful run, spoilt a possible chance by passing wildly to Abbey. At this period Gloucester were having the better of the exchanges, and a forward rush looked dangerous for Guy's until Saxby was brought down in possession. Another forward rush with East, Abbey and Saxby to the fore carried the ball over our goal line. Abbey just gained the touch down, but T. Stephen failed with the kick.

Soon after, good kicking by Guy's gave them territorial advantage, and eventually Garland broke away from a scrum and passed to Mostert. The latter, after making ground, cross-kicked, but Stephens misjudged the ball and F. H. B. Spence had no difficulty in gathering and dashing over the line to make the scores level.

Gloucester at once attacked, but Guy's touched down. Vigorous forward work followed, the tackling being very keen. The players, however, found the ball difficult to control. Good work between Garland and Lewis transferred play to the home sides' 25. From a dangerous position the Gloucester forwards carried play to the Guy's quarters, where they were awarded a penalty. The kick at goal failed and Guy's at once took up the attack. Following a slip in the City's defence our backs broke through, but Thomas, the full back, saved. Twice the Guy's threes executed short passing movements, but the home defence held out. Before half time the Hospital forwards asserted themselves and were pressing when the whistle sounded.

Within two minutes of the kick off Gloucester were nearly in, but P. D. B. Spence brought down J. Stephens after the latter had beaten him. For a time Gloucester continued to press until Ryan obtained a good kick to midfield. Some exciting play followed in which Garland picked up and, though tackled by a couple of home players, managed to force his way over to give Guy's the lead by 6–3.

Gloucester restarted with great vigour, and in one burst P. D. B. Spence only just saved in time. Good length kicking by Guy's kept the ball in the home side's territory. This was followed by forward rushes on both sides, in which Guy's had slightly the better of matters.

A penalty to Gloucester was received by F. H. B. Spence, who shook off several opponents and eventually started passing. The ball travelled to Robinson, who, after making considerable ground, was forced into touch. A cross-kick by Garland placed Gloucester in danger again. A scrum, 5 yards out, was ordered, but mistakes between the Guy's backs enabled Gloucester to clear. The City worked desperately hard to equalise, but did not meet with success, and before the end Guy's took up the attack again.

Durr, Cameron, Myburgh and Popplewell were the pick of a hard working pack. The back division as a whole played very well and it would be difficult to pick out anybody in particular.

Result—Guys, 2 tries (6 points); Gloucester, 1 try (3 points).

Guy's Team—P. D. B. Spence; G. V. Mostert, F. H. B. Spence, A. J. Lewis, T. G. Robinson; T. O. Garland. D. F Ryan; W. H. Myburgh, G. G. Cameron, J. Durr, J. H. Cullinan, C. D. Malone, A. Simpson-Smith, R. A. Hogbin, J. R. F. Poppleweil.

Guy's *v.* Newport.

THIS match was played at Honor Oak Park on Saturday, February 4th. The recent heavy rains had made the ground waterlogged, and the surface, especially in front of the stand, was nothing less than a sea of mud, several inches deep. It was the first time that Newport had ever visited Honor Oak Park, and it was a great pity that the conditions were not more favourable for such an attractive fixture. However, the Monmouth men seemed to revel in the mud, and certainly adapted themselves better than Guy's. They possess an excellent pack, and the handling of their backs was surprisingly good. In Everson they have a full back well above the

average. Guy's were still without Preen, but otherwise were at full strength. Newport had a full team, excepting Phillips, who was playing for Wales against Scotland.

The Guy's forwards were soon prominent and at once carried play into the visitors' 25. At the end of five minutes Ryan received from Robinson and dived over the line for a try in the corner, but it was too far out for Durr to convert. After P. D. B. Spence had checked a Newport rush, there followed an exchange of kicking between the backs, which ended when Ryan found touch well into the visitors' territory.

A fine round of passing between the Newport backs followed by a forward rush saw play transferred to Guy's 25, when Garland came to the rescue and, with an individual effort, burst through the opposition, only to see his punt forward fielded by Everson, whose appeal for a mark was successful. A long punt, and follow-up by Ryan, saw Everson misfield the ball, and the situation looked critical for Newport, but offside against Guy's nullified any advantage gained.

Excellent handling and good passing between Griffiths, Babington and Nicholls carried play into Guy's quarters, and, following a scrum near midfield, Griffiths broke through on his own and after handling off all opposition gave to Morley when faced with Spence. The latter had no difficulty in scoring and making the scores level. Everson was unable to convert from an easy position. A dashing raid by the Guy's forwards, who carried the ball over the visitors' goal line, ended when Everson, their full back, succeeded in the race for the touch down.

The Hospital forwards came again, but in the excitement to kick the ball out of the mud one of the Guy's forwards kicked into Everson's hands. From the mark Everson kicked to Griffiths, who in turn kicked well into the Guy's 25. From the line out the Guy's forwards made a determined rush, but were checked in midfield when half time arrived.

For 15 minutes after the interval there was plenty of excitement. Play was rapidly transferred from one end of the field to the other. At this period Guy's with their strong forward bursts, were the dangerous side. One excellent movement by Garland nearly saw him over, but numbers outweighed him at the finish.

Very soon after Garland gave to Ryan, who in turn gave to F. H. B. Spence, The latter, after swerving past the defence, had a clear field, but instead of going for the line elected to try a drop at goal from a good position, but missed. Thus a good opening was lost and, profiting by the escape, Newport set up an attack which compelled P. D. B. Spence to touch down. For some time the men from Wales attacked in our 25, and eventually Nicholls raced into the corner to score the points which eventually gave Newport the victory. P. D. B. Spence made a gallant attempt to stop his man, but both were injured in the final struggle and had to receive attention.

With only a few minutes left for play Guy's made a final effort to break through, only to find the visiting defence equal to all demands.

Result—Newport, 2 tries (6 points); Guy's 1 try (3 points).

Guy's Team—P. D. B. Spence; T. G. Robinson, A. J. D. Lewis, F. H. B. Spence, G. V. R. Mostert; D. F. Ryan, T. O. Garland; J. R. F. Popplewell, W. H. Myburgh, G. G. Cameron, J. Durr, B. G. Scholefield, J. H. Cullinan, A. Simpson-Smith, C. D. Malone.

Senior Kent Cup—2nd Round.
Guy's "A" *v.* Sevenoaks "A."

PLAYED at Honor Oak Park on January 28th. Guy's Hospital beat Sevenoaks by 1 goal and 1 try (8 points) to 0. The Hospital were represented by the full "A" side, strengthened by Scholefield, who was unable to accompany the "1st" to Gloucester. The ground was covered with an inch of water at the start—it was raining hard with a high wind and very cold.

Most of the game was something between a loose scrum and a forward rush, each side securing the ball in turn, and neither side being able to do much with it. This was relieved by tight scrums, in which Guy's had the most of the ball. Both sides tried passing movements, but most of them came to nothing, as it was almost impossible to hold the ball. Tregarthen lost the toss and kicked off with the wind. Guy's pressed for most of the first half, and after about 20 minutes Clegg forced his way over. The kick failed. After this Eustace and Thomas tried hard to increase the lead, but all the movements broke down through inability to handle the ball. Once or twice Sevenoaks broke away, but Johnson was safe and play returned to the Sevenoaks 25.

After half time Sevenoaks had more of the game, and might have been over several times—their long kicks ahead often gave the Hospital moments of anxiety—but, later, the forwards got more together and had the best of the forward play, Scholefield and Morgan being continually prominent. J. G. Clarke nearly scored twice, but was beaten to the ball, and a 25 resulted. About 10 minutes from time A. R. Clarke fielded a miskick after a drop out and ran through to score between the posts.

Sevenoaks then pressed, but no further score resulted. Although the result was so long in doubt, Guy's certainly were by far the better side, and it was only the difficulty of holding the ball that prevented a much larger score.

Guy's meet Catford Bridge in the next round, the semi-final, and should stand a good chance of retaining the Cup.

Guy's Team—A. G. Johnson; Ive, Clegg, Peatfield, E. J. Clarke; Thomas, Eustace; Tregarthen, Richmond, A. R. Clarke, Smith, Clegg, Morgan, Lashmore, Jones.

Guy's "A" *v.* H.A.C. "A."

THIS match, played at Armoury House on January 21st, was won by Guy's by 5 goals and 2 tries (21 points) to 1 goal (5 points). In spite of this large score the game was a hard struggle, and the H.A.C. often appeared dangerous. Chief credit is due to the play of the Hospital pack in the loose, particularly of T. Morgan, who scored two of the tries himself. Of the seven tries obtained six were scored by forwards. In the tight scrums the Hospital got a fair share of the ball, but the opposing wing forwards were too quick for McArdle, who very often failed to get the ball away at all. His falling, however, stopped many dangerous rushes and showed plenty of pluck.

The rest of the backs hardly had a fair chance. Their defence throughout, particularly that of Peatfield, was very good. The first half started off with a rush and a perfect crosskick from Mostert only just went wrong. After about 10 minutes Morgan forced his way over in the corner from a line out. Next Peatfield scored a fine try, which Tregarthen converted. Later, Jones followed up well and touched down far out. This was again converted—13–0. Just before half time one of the H.A.C. three-quarters broke through and only had the back to beat to score between the posts. In spite of the score the home side had had plenty of the game, and their forward rushes were often very effective. In the second half the game was mostly forward, with plenty of loose scrummaging. A forward rush, started by Morgan, resulted in Smith scoring. Next, Morgan dribbled over and touched down himself. H.A.C. rallied and pressed, but the defence held, and Clegg cut through and passed in to Clarke, who scored under the posts. Finally, Morgan broke away from the line out and kicked ahead for Lashmore to score.

Guy's Team—A. G. Johnson; E. M. Harding, Steward, Peatfield, G. R. Mostert; W. B. Clegg, M. S. McArdle; J. C. T. Tregarthen, J. Richmond; A. R. Clarke, D. S. Clegg, R. N. C. Smith, T. Morgan, G. Lashmore, J. W. H. Jones.

Hockey.

Guy's *v.* Rochester.

SATURDAY, January 14th, being one of the few fine afternoons of the year, we played Rochester at Elmers End and beat them 9–2.

Although we had been tiring ourselves for over an hour before our opponents arrived, we proceeded to show them how to run about, and at half time led by 5–0, mostly due to efficient combination between Curtis and Conybeare.

The second half found our right back assisting the left wing, with the result that our opponents reached our half of the field and managed to score, although Wootton should have saved without much difficulty.

Guy's Team—G. R. Wootton; F. R. Hayward, F. N. Corfe; R. A. Sykes, C. N. Howitt, N. S. Larcombe; E. T. Conybeare, A. A. Curtis, C. A. W. Archer, S. R. Peatfield, H. O. Lyne.

Guy's *v.* East Grinstead.

THIS match was played at East Grinstead on Saturday, January 28th, in the midst of mud and rain. Our opponents were without Castle and their right half, both of whom were playing for the South, while we lacked the services of Carrell and Peatfield.

We lost the toss and were made to defend the muddier goal. Scientific play was impossible, as the ball would not travel 20 yards unless undercut. We adapted ourselves to the conditions better than our opponents. Our defence cleared lustily each time East Grinstead penetrated our half, especially Gare, while our forwards managed to scoop the ball nearer goal, and by quick following up we scored three times in the first half through Archer (2) and Curtis (1).

We left that circle unplayable, so that it was almost impossible for our opponents to score in the second half, but we reaped the reward of keeping East Grinstead in their own territory during the first half, for we had an unploughed circle from which to shoot.

As it was impossible for anyone to run through with the ball, our opponents exploited the one-back game, and these tactics were partly successful, for it did put us offside often, particularly it caught Lyne lurking too far upfield.

By sheer digging we obtained three more goals, Curtis scoring two and Lyne one.

Thus, we achieved our ambition to beat East Grinstead on their own ground, and by the good margin of 6–0.

All our team showed marked improvement, particularly Conybeare. The team work was better than before, and this is pleasing in view of

the fact that we meet U.C.H. in the first round of the Cup at Richmond on Monday, February 13th.

Guy's Team—E. A. Maystone ; F. R. Hayward, H. S. Gare ; C. N. Howitt, F. E. Camps (capt.), R. A. Sykes ; E. T. Conybeare, J. T. Edmonds, A. H. Curtis, C. A. W. Archer, H. O. Lyne.

Guy's *v.* Dover College.

ON Thursday, February 2nd, and the occasion of our first school match this year, we had the pleasure of playing under blue skies, but with the ground still soft from recent rain.

This was the College's first match, but we spoilt an invicta season for them by beating them 4–0.

We won the toss and attacked the poorer end first. From the bully-off Archer and Curtis got away, but were stopped by the backs, who cleared to the left wing, who was unmarked, and, being fleet of foot, was not pulled up until he got to the edge of the circle.

After this we attacked repeatedly, but our wings were not playing well. Lyne only got a few centres across and Edmonds was centring too late to be of advantage. On the other hand, the inside forwards played well, and eventually Archer broke through and flicked a good goal. Soon after the same player scored again with a good drive, reminiscent of his match-winning form of last year.

Schofield saved two excellent shots from their inside right. One he kicked clear and the other he deflected around the goalpost with his stick.

During the second half we continued to have the better of exchanges, and, owing to more efficient marking by our right half, their left wing was subdued, and we did not have so many anxious moments following his centres.

We added two more goals in this half through Curtis and Peatfield.

Guy's Team—J. B. Schofield ; F. R. Hayward, F. N. Corfe ; S. W. Wright, F. E. Camps (capt.), R. A. Sykes ; J. T. Edmonds, A. H. Curtis, C. A. W. Archer, S. R. Peatfield, H. O. Lyne.

Hospital Information, etc.

Pass List.

Conjoint Board.

FINAL EXAMINATION

January, 1928

Medicine

N. S. Narasimhan	*C. N. Cohen
*F. G. Booker	*J. A. Vernon
*W. P. R. Swemmer	*A. G. Ensor
*C. S. Gross	*C. H. C. White
*M. T. O'Sullivan	*R. T. Jones
*W. H. Myburgh	*J. C. Fast
*V. C. Benson	*G. N. Wood
J. E. Crooks	H. N. W. Harley
M. T. Brockman	R. L. P. Peregrine

Surgery

*C. N. Cohen	N. E. Pitt
T. E. G. Hopkins	*F. G. Booker
*M. T. O'Sullivan	P. S. Gitlin
H. M. Sein	L. B. Langmead
*J. H. Richmond	*R. L. Harward
*H. Epstein	*T. M. Robb
*J. H. Cullinan	J. E. Morton
E. C. Woodhead	E. H. Sears
R. E. Rix	

Midwifery

*C. N. Cohen	N. E. Pitt
E. C. Duffett	*A. G. Ensor
P. S. Gitlin	*H. Kaitz
M. H. Rashwan	L. B. Langmead
B. J. Bouché	C. G. S. de Silva

* Have completed the Examination

January, 1928

PRE-MEDICAL EXAMINATION

Chemistry and Physics

E. J. Stubbs	H. B. Christian
†J. C. Fry	A. E. Ginn
*S. S. Gill	E. H. Lewis
C. R. Stone	C. S. Pitt
G. G. Hardie	*C. C. R. Mailer
*A. D. Hammond	*T. Ireland

* Chemistry only

† Physics only

(OLD REGULATIONS)

Elementary Biology

G. G. Exner

FIRST EXAMINATION (NEW REGULATIONS)

Anatomy and Physiology

J. C. Read	†E. S. St. John
E. S. T. Lee	C. G. Baker
G. B. Palmer	H. Rosenberg
*W. V. D. Bolt	

* Anatomy only

† Physiology only

SECOND EXAMINATION (OLD REGULATIONS)

PART I

Anatomy and Physiology

J. Rosenberg	†A. M. Weston
C. A. Rumball	*E. A. R. Berkley

* Anatomy only

† Physiology only

PART II

Pharmacology and Materia Medica

W. K. Schnarr	V. W. L. Wells
E. C. Gross	J. M. Durr

Appointment.

J. F. Stallman, M.B., B.S., F.R.C.S., appointed Hon. Surgeon, Children's Hospital, Kingsholm, Gloucester ; District Surgeon to the Great Western Railway Company at Gloucester.

Notices.

THIRD YEAR'S PRIZE IN DENTAL SUBJECTS

OPEN to Students who have studied in the Dental School of Guy's Hospital for not more than three years (including a 2 years' course of Prosthetic Dentistry), and to those Students who have studied in the Dental School of Guy's Hospital for not more than one year, where their course of Prosthetic Dentistry has been completed elsewhere.

In both cases the candidate must not have studied at any other Medical or Dental School prior to the commencement of their Dental Studies at Guy's Hospital, except with regard to the courses of Prosthetic Dentistry, Chemistry and Physics.

SUBJECTS

Dental Anatomy, Dental Histology, Dental Metallurgy, Dental Prosthetics (Paper and Practical)

The Examiners, at their option, may hold a written or *viva voce* examination, of which due notice will be given, for the purpose of more thoroughly testing the comparative merits of the candidates.

Entries close for this examination on *Thursday, February 23rd*, 1928.

SENIOR PRIZE IN GENERAL SUBJECTS

OPEN to Students who have studied in the Dental School of Guy's Hospital for not more than—with regard to Anatomy and Physiology—3 years, and with regard to Surgery 4 years (including in each case a 2 years' course of Prosthetic Dentistry), and to those Students who have studied in the Dental School of Guy's Hospital for not more than—with regard to Anatomy and Physiology—1 year, and with regard to Surgery 2 years, where their course of Prosthetic Dentistry has been completed elsewhere.

In both cases the candidates must not have studied at any other Medical or Dental School prior to the commencement of their Dental Studies at Guy's Hospital except with regard to the courses of Prosthetic Dentistry, Chemistry and Physics.

SUBJECTS

Anatomy, Physiology and Surgery

The synopses are those required in general subjects for the first and second professional examinations for the Licence in Dental Surgery of the Royal College of Surgeons of England.

Entries close for this Examination on *Saturday, February 18th*, 1928.

PRIZE FOR OPERATIVE DENTAL SURGERY

Conditions

1. Open to Students who have studied in the Dental School of Guy's Hospital for not more than 4 years (including a 2 years' course of Prosthetic Dentistry), and to those Students who have studied in the Dental School of Guy's Hospital for not more than two years, where their course of Prosthetic Dentistry has been completed elsewhere.

In both cases the Candidates must not have studied at any other Medical or Dental School prior to the commencement of their Dental Studies at Guy's Hospital, except with regard to the courses of Prosthetic Dentistry, Chemistry and Physics.

2. Each Candidate is required to give 14 days' notice of his intention to present himself for the Examination.

3. Each Candidate is required to perform operations upon patients, and to provide a suitable case, approved by one of the Examiners, for each of the operations. The operations will comprise: (*a*) One Gold Filling, (*b*) One Synthetic Filling, and (*c*) One Amalgam Filling.

Entries close for this Examination on *Saturday, February 18th*, 1928.

Papers by Guy's Men.

C. H. Fagge, F.R.C.S. Fractures of the Long Bones, *Lancet*, 1928, i, 122.

O. Gayer Morgan, F.R.C.S., and F. D. Howitt, M.D. The Application of Heat by Diathermy in Iridocyclitis, *Proc. Roy. Soc. Med.*, xxi, 1928, 414; *Sect. Ophthal.*, 14.

R. J. Cann, M.B., M.S. Three Cases of Chronic Suppurative Otitis Media on the Right—*i.e.*, exposed—Side of Motor Drivers, *Ibid.*, 391; *Sect. Otol.*, 5.

Geoffrey Marshall, M.D. Chronic Bronchitis, *Clin. Jour.*, lvii, 1928, 49.

T. Izod Bennett, F.R.C.S. Treatment of Gastric Ulcer, *Brit. Med. Jour.*, 1928, i, 168.

Change of Address.

F. Bocquet Bull, 44, Queen Anne Street, W.1. 'Phone: Langham 2316.

Kenneth Hooper, L.D.S., R.C.S., 8, Copers Cope Road, Beckenham, Kent. 'Phone: Ravensbourne 0631.

J. Edgar Davies, "Ffynone," St. George's Crescent, Rhyl, North Wales.

Deaths.

FOX—On February 2nd, 1928, Philip James Fox, aged 14 weeks, the younger son of Dr. and Mrs. Fox (née York), of 157, Jamaica Rd, Bermondsey, S.E.

ROSEDALE—Suddenly, at Copford, Colchester, of Captain the Rev. Honyel Gough Rosedale, D.D., aged 64 years.

EDS. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLII. *February 25th, 1928.* *Number 1033*

PASSIM

WE have been asked to announce that Dr. Beddard's last teaching round will take place in Stephen and Mary on Friday, March 2nd, at 2.30 p.m., when it is hoped that all who have been on his Firm will be present. A dinner, arranged by his past and present Ward Clerks, Clinicals and House Physicians is to be held at Oddennino's Restaurant (Gatti's), in the Strand, on March 5th, at 7.45 p.m. All those who have not already done so should send in their names to Dr. Beddard's House Physician as soon as possible.

LIKE the well-known renegade who was turned out of Heaven, we hate harping, particularly on subjects that many readers of the GAZETTE may long to forget. But on a question so near and dear to our stomachs as the catering in the College we feel we may safely take an ell for our inch. So we publish in our correspondence column a letter on this subject, and we would welcome sane and vigorous discussion on this all-important topic in the hope that some sound suggestion may come out of it.

THE Residents' Play is now, unfortunately, a thing of the past. For four nights it played to packed houses amid the infinite enthusiasm of audience and scene shifters. An account of it, together with some special photographs, will be found elsewhere in this issue.

WE have just been sent two small books of the type known in technical circles as brochures. We will deal with each in turn. The first is an address delivered by Sir John Rose Bradford, F.R.S., President of the Royal College of Physicians, at University College last year, being the fourth of a series of Centenary addresses.* It is entitled *University College, London, and Medical Education.* Without, therefore, being of immediate personal interest to us at Guy's, it provides extremely interesting reading, showing how organised medical education has only been established for the past 100 years, during which time the Medical Act, the Medical Council and the Medical Register have all come into being. This only applies to England, as not only in Italy, France, Germany, Switzerland and Holland, but also in Ireland and Scotland medical education had been fostered in the Universities before this time. But in England all the medical education was provided at hospitals, some of which had private medical schools attached—notably Guy's, Bart.'s, St. Thomas's and the London—and at various private schools of anatomy, medicine and surgery. In spite of the improved methods of teaching organised for us now, we cannot help feeling a little regretful that we did not study our medicine at a time when examinations were not in existence, and one merely had to be signed up for various courses in order to get a qualification to practise. Happy days those must have been!

Sir John differentiated carefully between the art of medicine, known to Hippocrates, and the science of medicine, which is of much more recent growth. We cannot help feeling that to-day we see the science looming rather large at the expense of the art, and at this we would fain turn aside and shed a brief tear. The tendency appears to be more and more towards considering the disease as the all-important focus, and isolating it altogether from the patient, whereas "in the pursuit of the art of medicine the patient must be the first consideration."

*Published by University of London Press. Price 1s.

The second brochure we have received is called *Rats, and How to Kill Them.** We had no idea there were so many methods of catching and killing rats. Apparently the only entirely impracticable method is that adopted by the Pied Piper. We should like to offer our heartiest congratulations for what they have done in the past and our best wishes for their efforts in the future in their great anti-rat war to the Vermin Repression Society, with which is incorporated the College of Pestology. The rat appears to us an entirely unlovable animal. We understand that he is impossible as a pet and cannot be trained to do anything really useful about the house. In addition, he does an infinite amount of harm in carrying disease. Therefore by all means let us repress him.

▭

Elsewhere in this issue will be found a notice of a Dental Travelling Scholarship. We should like to draw the attention of our dental readers to this as being a wholly admirable and highly desirable scheme. No mind, not even that of a dentist, can afford to scoff at a little broadening, and there is no more excellent method of achieving this extra breadth of mind than that afforded by a course at some other school than one's own, particularly if it be in a foreign land.

▭

We have been asked to give notice of an address entitled "Some Naval Adventures," to be delivered by Surgeon Vice-Admiral A. Gaskell, C.B., F.R.C.S., Director-General of the Royal Naval Medical Service, in the Physiology Lecture Theatre, on Monday, February 27th, at 1 p.m. This address will be open to all students.

▭

We regret that an error occurred in the article on the Royal Naval Medical and Dental Services in our last issue but one. The paragraph "Officers entering . . . in lieu of Pensions" was placed above the Pensions' Scale instead of the Gratuities Scale. This suggested confusion between a Pension, which is, naturally, an annual sum, and a Gratuity, which is a single grant on leaving the Service. We were relieved when the Admiralty merely sent us a departmental note to correct this. We had half expected the arrival of the entire Fleet at London Bridge.

*By A. Moore Hogarth, F.E.S. Published by John Bale, Sons & Danielsson, Ltd. Price 6d.

▭

On February 11th a very successful meeting of the Southern and Eastern Counties' branches of the British Dental Association was held at Guy's in the Dental Department. The Staff gave demonstrations, and clinical cases were shown. An interesting afternoon was brought to a close by tea, served in the Wills Library. About 170 people were present.

▭

We have been asked to announce a Course of three Public Lectures on Heredity, to be given by Dr. E. A. E. Crew, M.D., D.Sc., F.R.S.E., Director of the Animal Breeding Research Station, University of Edinburgh. They will take place in the Theatre at Birkbeck College, Bream's Buildings, Fetter Lane, E.C.4, at 5.30 p.m., as follows:—

Wednesday, Feb. 29th ..... The Facts
Wednesday, March 7th ..... The Theory
Friday, March 9th .... The Implications

At the first Lecture the Chair will be taken by Sir Daniel Hall, K.C.B., F.R.S., Director of the John Innes Horticultural Station. Admission will be free without ticket.

▭

We should like to convey our congratulations to Mr. E. C. Till on being appointed R.O.

▭

On going to Press we hear rumours of a fire having broken out beneath Martha. The presence of the Superintendent and 10 fire engines in the Park would tend to support the rumour. We understand from a reliable source that the fire was caused by an enthusiastic night nurse burning the candle at both ends.

Obituary.

J. D. Percy Roberts, L.D.S.

It is with great regret that we record the tragic death at an early age of Mr. J. D. Percy Roberts, L.D.S., who returned to Johannesburg from Guy's in 1923. He joined the Hospital Dental School in January, 1920, and was extremely well known among contemporaries during his three years at the Hospital.

Five years after his return to South Africa saw him well established with a flourishing practice in his home town, and it was in connection with the establishment of a branch of that practice in Gwelo, Rhodesia, that Mr. Roberts came to make the journey which had such a sad ending. Apparently he had decided to travel north to Gwelo

from Johannesburg by road. Reaching Messina, on the southern bank of the Limpopo river, he discovered that strong floods had broken the cable of the pontoon ferry, which forms the only means of crossing the river at that point. The pontoon itself lay submerged a short distance from the bank. In common with several other motorists who were likewise held up on their northward journey, an attempt was made to attach a borrowed cable to the submerged pontoon, with a view to hauling it to the side of the stream. By some misfortune Mr. Roberts, who had entered the water with the new cable, stumbled into a deep hole in the river bed and was carried away by the rapid current of the river in flood. He was last seen about 100 yards further down, and it was then apparent that although a strong swimmer he would be unable to cope with the strength of water in the swollen river.

Mr. Roberts was only 29 years of age. Born in Johannesburg, he was educated at Marist Brothers College and Stellenbosch. On his return from Guy's he set up in practice, and was extremely successful. He was one of the founders of the Johannesburg Dental Clinic and Honorary Visiting Dental Surgeon and Lecturer at the Witwaterstrand University attached to this Clinic. He occupied an administrative position in the Society of Dental Surgeons, and was also well known outside professional circles by reason of his political activities.

Acute Intestinal Obstruction.

A Clinical Lecture by C. H. Fagge, M.S., January 5th, 1928.

GENTLEMEN,—I will first read you notes of three cases. (1) Last week a woman aged 59 was admitted into Martha with a history that an abdomino-perineal resection of the rectum had been performed on her for cancer in 1926. She had had no trouble in her abdomen m that date until two days before admission, when, after passing a small scybalous motion in the morning, she found she could pass neither flatus nor motion through her colostomy, and she began to suffer from acute abdominal pain. Her dresser notes on admission that : " The abdomen is rather full, but not markedly distended. There is no rigidity, but slight generalised tenderness. No tumour can be felt. Her pulse is 80, her temperature normal."

I saw the patient on the afternoon of her admission, and, from the history that the rectum had been removed for carcinoma, suspected that her recent obstruction was due to secondary cancerous peritonitis, for which obviously no curative operation could be done, and I was doubtful whether any palliative operation was necessary or justifiable. However, on the following day, three days after the onset of her trouble, her pulse began to rise and she vomited several times, the vomit being the brown, foul-smelling contents of the duodenum. At operation, some 24 hours after admission, it was found that a loop of small intestine was strangulated close to the permanent colostomy in a hole in the omentum. The apex of the strangulated loop was fixed to the abdominal wall by a band and the omentum was matted round the loop, so that until the strangulation was relieved by dividing the adhesion and extracting the loop from the omental gap it was difficult to realise the exact state of affairs. A stomach tube was then passed, as during the operation the patient continued to vomit, and subsequently the stomach was kept empty by the use of a Sprengel's pump. There was no improvement after the operation, and she died the following morning.

(2) On May 4th, 1916, I was called to see a man, aged 26, who on the evening of May 1st had been seized with acute abdominal pain and had vomited all that night. I was told that on May 2nd his abdomen was slightly distended, but his pulse was only 80. On May 3rd an enema gave no result ; he was still sick, his pulse was 90, and his abdomen was becoming distended. When I saw him, rather less than three days after the onset of his illness, the abdomen was distended and gurgling in distended small intestine could be felt ; he had hiccough and his pulse was under 100. His abdomen was opened without delay and much distended purple small intestine came into view. This was followed down towards the right iliac fossa, where distension ceased, but not abruptly, and gas could be passed on into the cæcum, which was pale and not full. I felt that unwittingly the cause of the obstruction had been relieved, but the nature of this cause could not be recognised, as one's vision of the parts involved was much hampered by the distended discoloured bowel. The ileum was opened and drained well above the obstruction ; this proceeding did not give the relief expected, for he continued to vomit, and on the 8th I found him very ill and still vomiting. His stomach was completely emptied through

a stomach tube. He then steadily improved, and on the 18th I closed the ileostomy by resecting 6 to 8 inches of small intestine. Since that time he had intermittent irregularity of his bowels, and on September 19th, 1927, again experienced acute abdominal pain and several times vomited foul-smelling brown material. His pulse was about 80, and an enema, followed by three doses of eserine, produced no result. His abdomen was somewhat distended, to which, no doubt, this vigorous treatment had contributed. When I saw him 8 hours after the onset of his illness, I could see distended coils of small intestine, in spite of the moderate degree of general abdominal distension; his pulse was 90 and he looked ill. Immediate operation was advised, and when under the anæsthetic a stomach tube was passed and left in position, as he continued to vomit brown foul-smelling material from the duodenum. I found the greater part of the small intestine distended owing to chronic obstruction, on which acute obstruction had recently supervened; this was due to a firm fibrous stricture in the lower ileum. In spite of this, his third laparotomy, there were no adhesions. I short-circuited the obstruction by a side-to-side anastomosis between the small intestine above the obstruction and the ascending colon. I was in much doubt as to the advisability of again draining the small intestine, but decided against this procedure, possibly wrongly, as for several days he remained distended, and his doctor had great difficulty in getting his bowels to act. He subsequently did well, in spite of an infected wound, which broke down and required a fourth laparotomy for its restoration. I have since learned that he is well again.

(3) Mr. B., aged 20, who in 1924 had undergone an ordinary quiet appendix operation, became ill on June 25th, 1926, when he was seized with acute abdominal pain and then vomited. On seeing him next day his doctor remarked upon the slowness of his pulse, which was only 72, but he still had considerable pain. On June 27th an enema produced a small result, but a second enema on the 28th produced no result, and I was asked to see him. On the diagnosis of acute intestinal obstruction, I opened his abdomen about 2½ days after the onset of the symptoms and found a long adhesion between the omentum and a loop of small intestine, this adhesion was wrapped like a whip lash round another loop of small intestine and was producing intestinal obstruction by strangulation. The band was removed and the obstruction relieved. The patient made a normal recovery, and since that date has remained well. In this respect he is perhaps unusual, for when such patients, after apparently simple operations, form adhesions it is my experience that, even if all adhesions are removed or freed by operation, they continue the formation of bands with recurrence of former symptoms. Thus, a girl, on whom I operated some four or five years previously for chronic appendicitis, when abroad on two occasions developed acute intestinal obstruction from the formation of adhesions. Fortunately, she fell into the hands of a skilful surgeon, who on each occasion had to resect a portion of small intestine.

These two cases are worth bearing in mind because they show that a very common and easy operation which in neither case was followed by any evidence of any abnormal peritoneal irritation may originate the formation of adhesions, which themselves may produce most dire results. It is therefore clear that we have not yet arrived at the time when it can be urged in support of a laparotomy of a more or less exploratory nature, as is so often done by members of a class in a ward round, that exploration can do no harm. I always feel, though I must admit that I have no cogent argument in favour of this opinion, that a thing which can do no harm can do no good. The statement that laparotomy can do no harm is not true because we do not know when we have to deal with a patient like my third patient, who, after one laparatomy, produced serious adhesions, rather than with a case like number 2, whose fourth laparotomy exposed a peritoneal cavity which was practically normal.

I shall to-day confine my remarks to what is known as acute mechanical intestinal obstruction, for I wish to emphasise the distinction between this type and paralytic obstruction or ileus, which usually results from an inflammatory process in the peritoneum; and yet it must be admitted that the distinction is mainly artificial, for mechanical obstruction in its later stages sets up a peritonitis with all the signs of ileus. Further, we must not insist too strongly on the mechanical nature of the type of obstruction in question, for, while mechanical in origin, the complex character of its symptoms is also due to the effect of pressure upon the sympathetic nerves supplying the bowel involved and to the toxic influence of putrefying intestinal contents. Also I have purposely confined my remarks to-day to acute obstruction involving the small intestine. The common type of obstruction involving the large intestine, due to the presence of annular carcinoma, is never typically acute, as it usually begins as a chronic obstruction. Though one type of acute obstruction, volvulus, does occur in the large intestine—*i.e.*, pelvic colon or cæcum—its clinical picture differs in some respects from those which I have related to you and which I have selected as typical of the condition under discussion.

It will be noticed that there is a wide difference between case 2 and cases 1 and 3. In the former acute mechanical obstruction alone was present, but in the two other cases the factor causing obstruction had also produced strangulation of a loop of bowel; this very much complicates the issue and aggravates the prognosis, not only because of its immediate effects, but because it may necessitate a more serious operation.

It is obvious that obstruction can occur without strangulation, but, in my opinion, strangulation necessitates obstruction, though I know that it is often taught that in strangulated Richter's or Littre's herniæ obstruction may be absent. This I cannot believe. It may be that at first there is no mechanical obstruction to the passage of intestinal contents, but the adjacent bowel must be influenced by abnormal nervous stimuli to its movements and by toxins elaborated in the strangulated segment, so that symptoms of obstruction due to paralytic ileus cannot be long delayed.

One does not realise how one's viewpoint of any individual disease is constantly changing until occasion necessitates the searching of text-books. During this process in the last week I have read in the different current surgical text books accounts of acute intestinal obstruction, and while doing so have repeatedly remarked: "This is not a clear clinical picture of acute intestinal obstruction as I understand it to-day, it is a picture of acute intestinal obstruction as I knew it as a house surgeon 30 years ago." Such a picture is of little use to you, for it presents the disease in a stage in which the operative prognosis is little, if at all, bettered by the surgical advances of the last 30 years. The only way to improve prognosis in acute intestinal obstruction is to cut the disease short in its very early stages. Here, in the large field of preventive surgery, is the surgery of the future.

Of the conditions which produce acute intestinal obstruction, those outside the bowel include bands or adhesions which may produce obstruction by kinking angulation or strangulation by loops; pressure by adjacent tumours, cysts, etc., very rarely produces this condition. External herniæ—inguinal, femoral, umbilical or obturator. Internal herniæ into the duodeno-jejunal fossa or the foramen of Winslow.

Conditions in the bowel wall—intussusception, entero-spasm, volvulus, fibrous stricture (secondary to ulceration or post-operative), congenital malformations, *e.g.*, atresia, Meckel's diverticulum.

Conditions inside the bowel—impaction of hair ball, gall-stones and other foreign bodies. This list does not include some very rare conditions which may cause obstruction, and it is, in fact, well to realise that external herniæ, obstruction by bands and intussusception (in children) are between themselves responsible for a very large majority of all acute obstructions.

The practical lesson we learn from this is that on the earliest suspicion of intestinal obstruction the hernial orifices should be examined as a routine, so as to eliminate the commonest type of obstruction in its commoner situations. Again, the history of an abdominal operation or the presence of a scar may supply information of the utmost value.

As I understand it, there are three characteristic symptoms of acute intestinal obstruction of the small intestine, and these are—acute abdominal pain, vomiting and the failure of the bowels to act. The acute abdominal pain is, as a rule, sudden in onset, is situated around the umbilicus, or remains in most cases diffuse and not localised to the site of the obstruction. Pain precedes vomiting, but the latter occurs after a very variable period; the higher the obstruction the earlier the onset of vomiting and the more complete the obstruction the greater the frequency of the vomiting. The vomit is first of all gastric contents, then bilious, and, finally, that brown, foul-smelling fluid, in no sense fæculent, from the upper part of the small intestine, which has undergone an unusual amount of putrefactive change.

I have tried to insist on the importance of early diagnosis, for the most expert operation at the end of three or four days is likely to be much less successful than the ministration of an unpractised hand within the first 24 hours. The acuteness of the obstruction varies considerably, and of this vomiting is the best index; whenever the vomit is brown, thick and foul-smelling the prognosis is correspondingly grave.

In my experience patients suffering from acute intestinal obstruction pass neither flatus nor motion. I know it is often said that the contents of the bowels below the obstruction are evacuated. This observation is not, in my opinion, correct. I regard the result of an enema as of great value in diagnosis because in any normal individual, however recently and however often his bowels have acted, the giving of an enema will always produce some result, whereas the return of merely discoloured soap and water is, in my experience, an indication of the greatest importance. It is not as a rule necessary to repeat the enema, but if in doubt as to the indication of the first a second may be given within a few hours. These three signs are those which will, I trust, lead you to the diagnosis of acute intestinal obstruction, and on which you will act and act promptly.

You will have noticed that in one case I quoted to you the doctor remarked that the patient's pulse was slow. In the early stages of acute obstruction the pulse is normal and does not usually rise appreciably until at least two days after the onset of obstruction; in this particular the cases I have related to you are typical. While a rising pulse, associated with the signs already mentioned, is a warning of immense gravity, it is undesirable that operative treatment should be delayed until the pulse begins to rise. There are two other signs which from recent perusal of surgical text-books one must conclude are regarded by some as characteristic of acute intestinal obstruction, these are abdominal distension and visible peristalsis. Every operator knows that when he opens an absolutely flat abdomen for acute obstruction, he will find the small bowel for some two or three feet above the obstruction considerably dilated. General abdominal distension must mean that this process has extended so as to involve some 10 or 12 feet. It would be a tragedy to rely in 1928 on signs on which it was a misfortune to have to rely some 30 years ago.

General abdominal distension means that the bowel above the obstruction is becoming paralysed, and, as this paralysis only occurs after obstruction has existed for four or five days, is not a sign to be looked for, and operation at this stage can only rarely be expected to meet with success.

Visible peristalsis indicates intestinal hypertrophy, and hypertrophy results from chronic obstruction, as is shown by my notes on my second patient in his second attack. One must not be led astray by the normal movements of the small intestine, which are sometimes visible through very thin abdominal walls. Until the patient, by continual vomiting, has become dehydrated, the tongue is moist and the temperature is subnormal.

Abdominal examination is in the main negative unless examination of one of the hernial orifices indicates the site of the obstruction. If the cause of the obstruction is intra-abdominal, there may be some tenderness over it.

The differential diagnosis has a greater theoretical interest to the surgeon than a practical value to the patient, for the majority of conditions with which acute intestinal obstruction is confused require the same treatment, namely, laparotomy. The diagnosis of acute intestinal obstruction is often made erroneously when the condition is one of paralyitc ileus due to a spread peritonitis; the reverse mistake I have never come across. Mesenteric thrombosis, allied to the latter condition, gives the same symptoms and signs as acute obstruction, and I doubt if pre-operative diagnosis can be correctly arrived at. In acute pancreatitis cyanosis and dyspnœa may suggest the precaution of estimating the pancreatic efficiency and so lead to a correct diagnosis, but, in my judgment, the patient loses nothing by incorrect diagnosis in either direction as the treatment is similar.

That acute abdominal pains occur in association with tabes must never be forgotten by the operating surgeon, and it is the duty of the ward clerk to ensure that a patient who is vomiting from the onset of uræmia is not operated upon as a case of acute intestinal obstruction.

On the suspicion of acute intestinal obstruction a soap enema should be given by a competent nurse; if this fails a second may be necessary. No purgatives should be given by the mouth and morphia should be withheld until a definite line of treatment has been decided upon. When the patient is anæsthetised a stomach tube should be passed, so that the stomach may be kept empty during the operation. In the majority of cases it is wise at this stage to infuse the patient intravenously with a pint of normal saline, to which glucose has been added. Such patients, owing to dehydration, suffer from acidosis and, as after operation it will probably be necessary to withhold fluid by the mouth for a few hours, immediately the patient can retain it continuous rectal saline should be instituted. The object of the operation is to relieve mechanical obstruction. This in itself is usually simple; whether it is desirable to drain the small intestine so as to overcome secondary intestinal paralysis is a point requiring great care and sound clinical judgment in every case. The correct answer to this problem obviously depends upon the extent and the degree of the distension; if at all marked a catheter should be inserted into the bowel at the highest point of distension and the bowel drained for a few days. Such a method usually fails, as the patients requiring it are beyond surgical help. It is obviously a last resort, and indicates a too-late diagnosis. I should be glad if none of you ever had to resort to it, for this would indicate that your diagnosis had been prompt and your treatment active in the very earliest stages of obstruction.

B. W. Williams, of St. Thomas's Hospital, has shown that toxæmia, which is a comparatively late result of acute intestinal obstruction, is due to Bacillus Welchii, and some benefit has been reported from the hypodermic injection of B. Welchii serum after operation. Of this I have no experience, and its use should be unnecessary if clear observation and sound judgment lead to an early diagnosis.

At the Play.

In the Physiology Theatre.

"Gas and Oxygen" or "Wenda??—I Wonder!!" By E. D. Grasby; assisted by S. C. H. Lane. Music by O. Ive. Produced by E. D. Grasby.

AND thoroughly enjoyed by the audience! The one excuse for itself that February can offer us is the Residents' Play. And a very good excuse it is—this year no less than other years. This "farce in four phases" as it was labelled on the programme, opened with a scene "Outside the Surgeons' Room." There we found two guys from Dawson City (N. H. Allen and E. H. Roche), of the type known as hick, rube or hayseed. They were in search of close-ups to take back to the lil' ol' home town, and they were soon rewarded by the vision of Olga Rick (E. T. Clifton), Sybil Senna (E. Clayton-Jones) and Theresa Terebinth (J. G. Weston), three of the most attractive nurses we have seen. These fair maidens proceeded to sing an extremely witty chorus, the tune of which was cunningly composed of popular tunes of the day, while the words we give below :—

STAFF NURSES' TRIO

Busy nurses are we and in theatres we see what each surgeon can do if he tries,
For their habits are queer, so we'd like you to hear, what the Sister puts up with at Guy's.

(Tune—*There Ain't No Flies on Auntie*)

Oh, there ain't no flies on Frankie, on Frankie, on Frankie.
There ain't no flies on Frankie, and I will tell you why.
When there's an "op." he doesn't like
He goes to a meeting, as sure as Mike.
Oh, there ain't no flies on Frankie, and that's the reason why.

(Tune—*Hallelujah*)

So, Hallelujah, Fagge will cure yah, and he'll cut your ills away.
With bugs all thro' yah, Fagge will cure yah, tho' his fractures go astray.
Finals are like Spinals, they take all ya strength away.
But, Hallelujah, when you're thro', ya thank the day Fagge came your way.

(Tune—*Ma, Look at Charlie*)

Coo! look at Bobbie—whoops, he's at it again.
Coo! look at Bobbie—whoops, it's ever so plain.
Go on, he says, and don't be shy,
Gastrectomies are as easy as pie.
Coo! look at Bobbie—whoops, he's at it again!

(Tune—*So Blue*)

See Philip operate from half-past one till after eight.
If he but knew—the Firm gets, oh, so blue!
For sleeping and waking, his poor hands are aching
To deal with a hernia or two!
He'll be in Heav'n when he's due to operate again,
But until then he'll still be—Oh, so blue!

(Tune—*Copper Nob*)

Joey Hughes, Joey Hughes, Joey never gets the Blues,
Look at him, look at him, do!
He finds hare lips very easy meat,
In his pink shirt he is very neat.
Oh, Master stroke, Master stroke, how he loves his little joke.
Look at him, look at him, do!

(Tune—*Riff Song*)

Ho! it's a time we'd best be working.
Bo! D.-C. doesn't care for shirking.
So! when he says "we must explore,"
Tho'! he's never seen it before.
Ho! into the abdomen see him
Go! with his fish-hook needles he will
Sew! the things inside in a knot.
And say, "Ha, ha! I have got the tumour—Ho!"

(Tune—*Ain't She Sweet*)

Ain't he cute; see the buttons on his boot,
And I tell you very confidentially—Bromley's cute.
Just cast an eye in his direction.
That snappy suit, ain't it perfection?
But what a mess when he starts to decompress.
Now I ask you, very confidentially—what a mess!

(Tune—*Hush-a-Bye*)

Hush-a-bye, hush-a-bye, dear little Slecky, dear little Slecky, don't you cry.
When he's nigh, fur will fly, dear little Slecky, dear little Slecky, don't you cry.
Fractures he can do with the best,
Thyroids help to feather his nest.
Hush-a-bye, hush-a-bye, dear little Slecky, dear little Slecky, don't you cry!

(Tune—By O. Ive)

Then there's Ogilvie, too—well between me and you,
He has fads that he cannot disguise.
Like the others he'll tend, to become in the end,
Quite a typical surgeon of Guy's.
All the lot of them tend to conform in the end
To the typical surgeon of Guy's.

Later, Sir Cuthbert Wagge (E. J. Pye-Smith) and Leander Lysol (L. R. B. Birt), his house surgeon, made a really dramatic entry by lift. In the course of a conversation which was mainly about "the Colleges," Sir Cuthbert let fall the information that his niece was shortly coming to the hospital as a nurse. At this piece of news Leander Lysol quite definitely pricked up his ears, as one who would say, "Aha, so she is, is she? And I hear she is ravishingly beautiful and abundantly wealthy." Next a vision in white from top to toe appeared from the Surgeons' Room, and we learnt that he was Mr. Eustace Eaudevie (S. C. H. Lane), a young surgeon who laboured after perfect tech-

nique at all costs. In fact, he confessed as much in song :—

PERSEVERING WITH TECHNIQUE

Now, a surgeon can't afford to be behind times,
Or neglect to keep his methods up-to-date.
He must always operate on very new lines
Or he'll suffer in the end, as sure as fate.
I'm Eaudevie, and speak with much experience,
I've a wrinkle which is new to try each week.
And you'll find me any day
Down in Theatre III at play,
Persevering with Technique.

Though I think my diagnoses are consistent,
I must confess that they're not always right.
Yet my optimism still remains persistent,
And my outlook always flourishing and bright.
I garb myself in gum boots of the whitest,
And my little vest and trousers clean each week.
With my gasper ever pleasant,
And my curly hair so pleasant,
Persevering with Technique.

The body of my motor is a beauty,
I invented it, and so I ought to know.
While for speed I'll tell the world that she's a cutie—
The Innominates agree that that is so.
I've travelled far and wide, the whole world over,
For experience is what I ever seek.
If to honours you aspire,
Still continue, never tire,
Persevering with Technique.

After Mr. Eaudevie had made an extremely skilful exit by lift, Montagu Monsol (S. R. Trick), a house surgeon, and Percy Picric (E. D. Grasby) recently a house surgeon and now looking for a job, appeared on the scene, and discussed old times with Lysol. They were duly regaled with the news about Wagge's niece, and Percy Picric was left on the stage in the attitude of a man who has an idea. As the curtain descended a beautiful smile spread over his face, and he declaimed to the audience that the Wagge child would surely arrive the very next day. How did he know? What did he mean? The plot was getting a bit thick.

THE SCRUBBERS QUARTETTE *Photo by Daily Mirror.*

Act II was laid in "Orthopædic Out-Patients." It opened with one of the hits of the evening, *The Scrubbers' Blues*, a delightful chorus sung by Messrs. Ettles, Lane, Weston and Clayton-Jones, as four hospital charladies. This was beautifully done. The words of this chorus we give in full :—

THE CHARWOMEN'S LAMENT

We sweep the Hall—so. We sweep the Hall—so.
We sweep from Monday 'till Friday, and leave the Hall tidy, each day.
And as we sweep we keep singing these Blues.
They're just the cutest Blues you have heard,
We're goin' to tell you how they occurred.

Now, my "ops." can't be described as very snappy—
As a motto "Slow and steady's" what I own.
And it makes the Theatre Sister most unhappy,
My anæsthetist emits a hollow groan.
I start at two and carry on till nightfall,
I take hours to find an ulcer with a leak!
And when I come down at night
We stay there till morning light
Persevering with Technique.

Though a heavy practice keeps me going daily,
My activities are not confined to Guy's.
Each Monday night I set off very gaily
For Woburn with my H.S. to advise.
And, when I've finished calling on the Duchess,
More surgical activity I seek.
So to Hampstead off I go
And continue, as you know,
Persevering with Technique.

The tune, the motor provides us with tunes,
They have a haunting queer melody,
And yet they have the Blues harmony.
So we banish our cares as we're washing the stairs,
And any worries and pains have to go.
The rhythm's sublime, when we're scrubbing in line,
As our brushes keep time to and fro !
So we don't trouble if skies are all grey,
We keep on sweeping and singing these blues.
Our little song's the Scrubbers' Blues.

We scrub the Hall—so. We scrub the Hall—so.
We scrub from Monday 'till Friday, and leave the Hall tidy, each day.

Some folk are lucky in life—some are not !
We don't approve of those that shirk,
Because there's dignity in work.
Our job ain't exactly the one that we'd choose,
We estimate it gives us the blues.
It ain't for us to pick and choose.
But whatever you do, here's a saying that's true,
If a job's to be done, do it well.
Though it's cleaning the brass or it's polishing glass,
Or it's scrubbing the floors, don't rebel.
If you go scrubbing or cleaning one day,
Remember what we say of the Blues,
And sing with us the Scrubbers' Blues !

Next, "Wenda Wagge," looking remarkably like Percy Picric, appeared, and was closely followed by Lysol, who pursued her ardently round Orthopædic Out-Patients until interrupted by the arrival of three students (Messrs. Roche, Allen and Carnofsky). These three discussed life in general, and "Wenda Wagge" in particular, until the appearance of Sir Curtis Tregowlan (S. L. A. Clarke), the famous orthopædic surgeon, who was attended by his wife (S. C. H. Lane) and by his chief assistant, Mr. Marcelle Lambrinoggins (F. G. Parker). After examining a few patients, shouting once or twice for "that Grundy woman" (F. J. Sale), and drawing hieroglyphics on the board—all in beautifully characteristic manner—Sir Curtis treated us to a song :—

SIR CURTIS TREGOWLAN'S SONG

As an orthopædician or cunning clinician
You doubtless have heard of Tregowlan—that's me !
For bony deformities or abnormalities
The surgeon to visit is certainly me !
I know all the tricks of the wily bone setter
I get all his failures and make them all better.
I twist them and bend them, I crack them and rend them,
They worship the name of Tregowlan—that's me !
(*Chorus*)
He twists them and bends them, he cracks them and rends them,
They worship the name of Tregowlan—
Sir Curtis—That's me !

If you have a kyphosis or ugly lordosis
Or bad scoliosis, well bring it to me.
Your kinks I will master and put you in plaster,
The method's advised by Tregowlan—that's me.
If your bunions are causing you terrible pain
I'll chop off the trouble—you may walk again.
Or with massage and movement you're sure of improvement.
The treatment's laid down by Tregowlan—that's me !
(*Chorus*)
With massage and movement you're sure of improvement
When treatment's laid down by Tregowlan—
Sir Curtis—That's me!

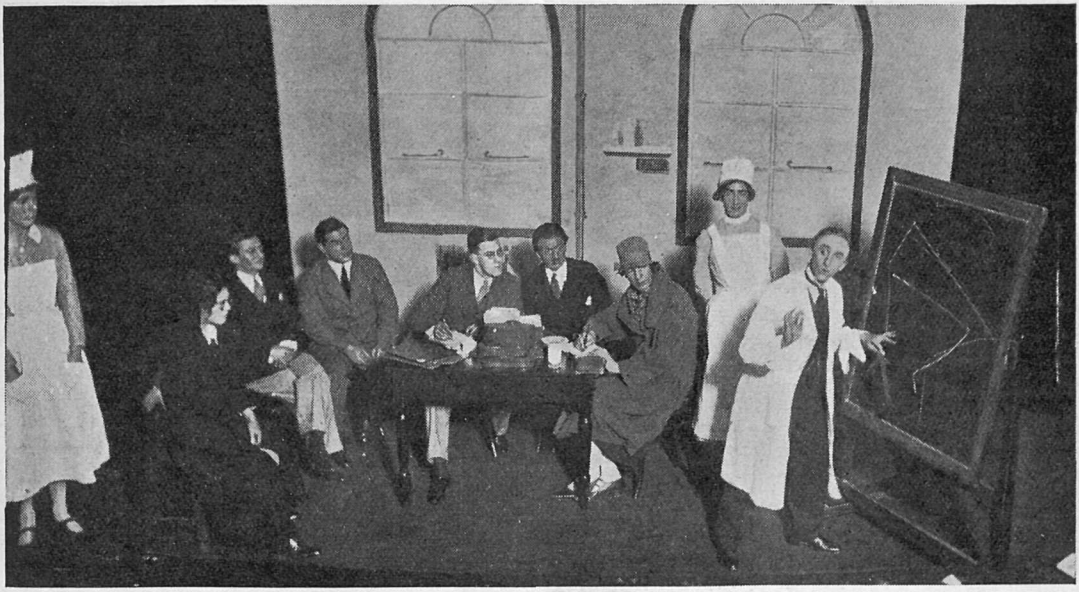

Photo by G. A. Walker.

ORTHOPÆDIC OUT-PATIENTS.

In diseases of joints here are one or two points,
You can move them or rest them according to me.
First aid at improvement, by giving them movement,
Your chances are equal, so try it and see.
I just spin a coin to see which I'll do,
If the first method fails, then I try number two.
For whichever I do there is sure to accrue
Much kudos and praise for Tregowlan—that's me !

Where'er there are ladies, you're sure to find babies.
Now, here is some good advice—take it from me.
There are looks most forlorn when the baby is born
With a club foot, I'll cure it if you'll bring it to me.
Exercises I've planned for the mothers at home,
If the kids object loudly, they leave them alone.
So, if plasters won't do it, there's one thing to cure it,
A Steindler performed by Tregowlan—that's me !

Though he's apt to be moody, my friend Lambrinudi,
Is also a notable surgeon like me.
He's especially good on such things as " drop foot,"
And his new operation is worthy of me.

and the habits of the Hospital. This act also showed us a Friday afternoon round by Sir Cuthbert Wagge, and a characteristic visit by the " Super " (S. C. H. Lane). Dr. Prambell (F. J. Sale), the cardiology expert, also charmed us for a few moments. The act was completed by a scene in the ward by night, when Gladys Glycerin the Pro. on night duty (D. C. M. Ettles), was visited by Montagu Monsol, the love-sick house officer. Together they gave a most affecting rendering of this love ditty :—

GLYCERIN AND MONSOL'S SONG

Just we two on our own—you and I all alone—
We will live for each other and none shall ever part us, dear.
Where no others may roam, we will furnish a home.
Ev'ry day for us, dear, will bring happiness to you and me.

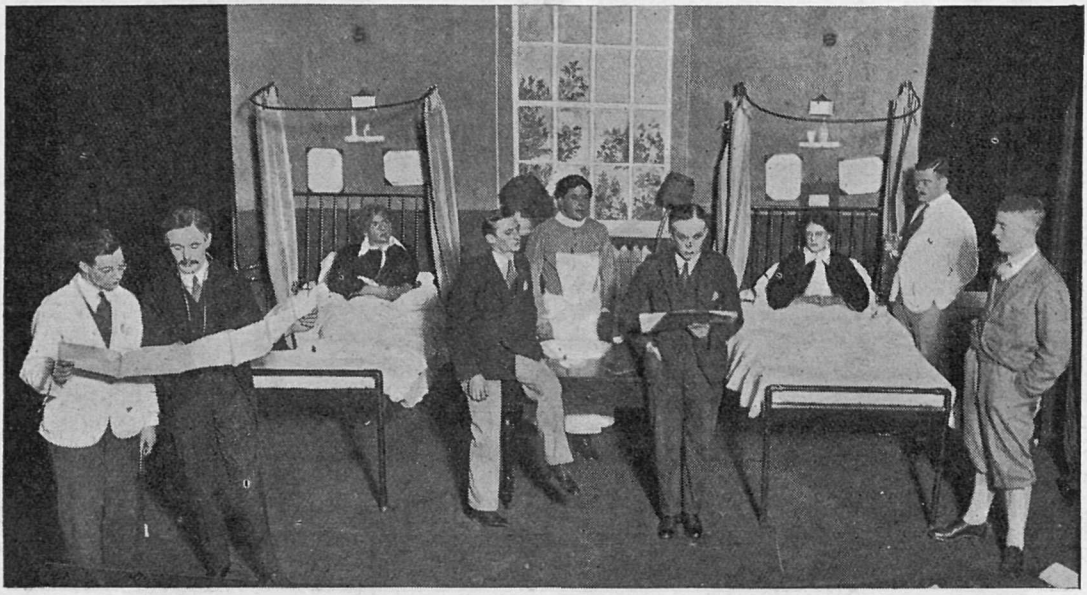

Photo by G. A, Walker.

A Friday Afternoon Round.

He always looks smart, but his figure, maybe,
Relies on a belt for support, same as me.
But wherever he goes, there is one thing that shows,
He's learnt all he knows from Tregowlan—that's me !

The act closed with a verbal description and a dramatic demonstration of her most intimate underwear by Rima Ryveta, as " Strings " (E. T. Clifton), to the highly embarrassed " Wenda Wagge," who was obviously unused to that sort of thing.

Act III, perhaps not quite so strong as the other three, showed us " Mrs. Five " and " Mrs. Six " (Messrs. Parker and Weston) in bed in a Surgical Ward. They carried on a highly entertaining conversation about members of the Staff

Worry will never mar our days, our joy will be complete,
No cloud shall hide the sunshine from our skies.
Just we two on our own, you and I all alone.
We will live for each other, and none shall ever part us, dear.

Far from London we'll go, we'll let nobody know.
We will have a long honeymoon. Oh, what happy days they'll be !
In some quaint little town, one day we'll settle down.
We will have a small cottage and I'll become a proud G.P.
Sundays will be our very own, none shall disturb us then,
Dreaming of all our happy days again.
Just we two on our own—you and I all alone.
We will live for each other, and none shall ever part us, dear.

The fourth, and final, act was laid in the Nurses' Home on New Year's Eve. The Nurses' Dance was about to begin, and seven ravishing ladies in various degrees of fancy dress and undress were displaying themselves and the dishes they had prepared to their friends. Olga Rick (E. J. Pye-Smith) in particular looked almost repulsively attractive in a multi-coloured creation which displayed her beautifully shaped legs to perfection, while Sybil Senna (E. Clayton-Jones) made an extremely successful attempt to look like a man trying to look like a girl made up as a man. We were strong admirers, too, of the well-developed arms of Rima Ryveta (E. T. Clifton)—she was a fine specimen of our new athletic womanhood. We were treated to this happy chorus by the charming damsels :—

It's not the right time—it's much too late.
And if the fire is going out what can we do ?
Because they hide the poker and the shovel, too !
But in the basement soon a smoking room
Will be provided
For the happy nurses in the Nurses' Home !

Now we nurses get some dispensations.
For our Council brings us compensations.
Many things have changed now we can talk with Matron.
Even now Miss Shepherd deigns to mend an apron.
So we've a stamp machine placed in the Colonnade.
And in the Reading Room new notice boards they've made.
Though many months ago they promised us a telephone
For Nurses in the Home—it's not there yet !
On Sundays we can't have our breakfast served in bed,
But we can cook it in the corridor instead,
Where we've a new gas ring, the very thing !

Photo by G. A. Walker.

SCENE IN THE NURSES HOME.

NURSES' SONG

People say that life is what you make it.
In the Home we nurses rather doubt it.
You shall hear the reasons why we doubt the saying—
Why the Nurse's life is not all joy and playing.

We must remember everything real ladies do,
And emphasise the fact that we are ladies, too !
Our cuffs must not be grubby, or our hair untidy,
Or Sister will surely ask us why.
We homesick nurses are all made to realise
How much the "Home" is just a home from home, at Guy's.
And ev'ry word we say finds its way to Matron's ear.
That's why we think that little saying is untrue !

Head Nurses have a sitting-room just up the stairs.
When we're not looking Sisters take the comfy chairs,
And gramophones must not be played by us at night time—
It's just too sweet
To think what diff'rences the Nurses' Council made.

Though we complain and think our lot is very hard,
From too much pleasure and excitement we're debarred.
Though our off-duty time we feel is most inadequate,
And often curse the date we came to Guy's,
Though late leave passes seem so few and far between,
And long week-ends we have on rare occasions seen,
Though we can't get our way, we must say,
It's rather fun
To join the Nurses in the Nurses' Home at Guy's.

Then the Matron (E. H. Roche) appeared with dramatic suddenness, and bearing a striking resemblance to a matron we know. She was followed by a succession of young men, whom she greeted with her usual charm and brilliance of

conversation, and who bore off their partners to dance. The " Super " next appeared with cigarette pendant and talked over old times with the Matron, finally leading her off to supper. Soon Gladys Glycerin and " Wenda Wagge " came on the scene together, but partnerless. Gladys took the opportunity of taxing " Wenda " with not being Wenda. When " Wenda " appeared pained at this suggestion, Gladys merely said, " *I* am Wenda Wagge." So there we were, and the plot was laid bare at last. After a great deal of pother and discussion, things were all nicely arranged for Gladys (or Wenda) to marry Monsol, and for " Wenda " (Percy Picric) to explain matters to the naturally rather disturbed Leander Lysol and persuade him to marry the girl in South Africa after all. So that it all ended happily.

For a show where all worked so hard and did so well it would be invidious to single out any names for praise, but we cannot forbear to congratulate, first of all, Grasby for his authorship and production of a very amusing farce and for his excellent acting; then Ive for his delightful tunes—we wish there had been more songs; then Tom Bonar for his hard-working and painstaking stage managing; then Messrs. Ettles, Clarke and Lane for their solos; then Roche for his Matron and Clifton for his biceps—but we cannot go on. It would sake too long. But before we absolutely and irrevocably close, let us not forget the orchestra, which performed so valiantly during those (to the orchestra) most thankless periods—the Intervals.

The Use and Abuse of the Tooth Brush.

A Clinical Lecture by Arthur Bulleid, M.R.C.S., L.R.C.P., L.D.S., R.C.S.Eng.

GENTLEMEN,—Propaganda is constantly being put out eulogising the necessity for keeping the mouth clean and suggesting that this desirable result may be obtained by the daily brushing of the teeth and gums, coupled with regular attendance at the dentists. Articles dealing with the effect of " oral sepsis " on the general health are as numerous as the stars in the " Milky Way," and all emphasise the necessity for keeping the commencement of the alimentary tract in as healthy a condition as possible.

That this end is entirely desirable I think no one will question, but whether the means advocated by propagandists are really as efficient as are maintained is, I think, open to question. In fact, as the result of clinical and experimental observation, I have come to the conclusion that the daily employment of the tooth brush, hallowed though it is by time, is fraught with unsuspected dangers. The slogans, " Brush the teeth and gums " and " A clean tooth never decays " are catchy phrases with that modicum of truth in them that make them so acceptable to the lay public and occasionally some dentists as well. A " clean " tooth may, and does, decay, and brushing the teeth and gums may have dire results if too literally carried out. There is practically no " voice crying in the wilderness " amongst the dental profession suggesting that the fetish of teeth and gum brushing may, after all, be only a fetish and one not based on scientific observation.

No sane person now denies that it is essential to obtain and maintain a healthy oral condition, but many physiologists cast a good deal of scepticism on any artificial means of obtaining or keeping a " clean mouth." They argue that there is no parallel amongst the lower animals for this artificial mouth cleaning, and that animals suffer much less from dental disease than do human beings. They also argue that it is as illogical to clean the mouth and teeth as it would be to clean out the rectum. This, however, seems rather far-fetched, because food is taken in at the mouth and not at the rectal end of the alimentary tract.

Stagnation and fermentation of food stuffs can, and do, take place in the mouth, and are most important factors in dental disease of all types, but such processes do not apply when the waste products of digestion have reached the lower end of the alimentary tract. It may also be added that stagnation and fermentation of foodstuffs in the mouth take place as a rule around the teeth, and we have yet to find a rectum fitted with a set of teeth.

If we were living as close to Nature as the wild animals and had to seek our food in the natural state, then the question would be entirely altered. In the case of most wild animals, the mouth is only a receptacle in which food, torn off by the teeth, lingers a moment in its passage to the stomach, and there is therefore no question of stagnation.

The picture is again altered in the case of the domestic animals. As long as their food approximates fairly closely to that obtained in the wild state the evidence of dental disease is mostly

absent. Once, however, their food has been prepared artificially, the domestic animals are at once more prone to the ravages of dental disease.

In fact, the need for the cleansing of the mouth at all has only come with civilisation, and as long as civilisation means prepared, refined, softish, cooked food, so long will there be stagnation and fermentation taking place in the mouth, and the necessity therefore of preventing this by some means—natural or artificial.

What has therefore to be considered is not that there is no necessity to clean out the mouth, but rather a clear understanding as to why there is this necessity, and how it may best be met. I am not concerned here with the natural means of keeping the mouth clean; they are well known and include the necessity of preserving a good arch, good articulation, flushing with saliva, and cleaning the teeth with the cheeks, lips and tongue. Diet, of course, plays a most important part in the prevention of dental disease of all types, and if sticky carbohydrate food could be entirely avoided then most stagnation of foodstuffs around the teeth would be prevented and the necessity for artificial cleansing would to a large extent be eliminated. It is, of course, needless to add here that nothing is so efficient as natural methods of cleansing and nothing can make up for any impairment of the natural processes.

The usual artificial method employed to remove food from stagnation areas in the mouth is brushing with a tooth brush, a dentifrice of some sort being applied to the dry brush before the act is commenced. It is recommended that the tooth brush should be used at least night and morning, and, if possible, after every meal. In addition to these details instructions are generally given to brush the anterior teeth in "up and down" direction and the posterior teeth with a circular movement. Such instructions are presumably given in order to diminish as far as possible the obvious danger of using a tooth brush. Most people prefer a hard or moderately hard bristled brush, and armed with such an implement the teeth and gums are scrubbed till the latter are sore, even if they do not actually bleed. The net result of this effort is that the protective pavement epithelium of the gum is rubbed away, and in some cases the thin portion of the gum around the neck of the tooth is permanently impaired. In consequence of the loss of epithelium the most important first line of defence against infection is removed, and the micro-organisms present in the mouth on the surface of the oral mucosa get into the gum tissue. In other words, a harmless, normally saprophytic flora, is given the chance to produce infection by being forced into tissues normally bacteria-free.

Of course, it can be argued that if the brushing of the gums produces bleeding, then the blood, being a highly bactericidal fluid, will arrest any invasion of micro-organisms into the deeper tissues, and it is notorious how quickly wounds heal in the mouth. If the tissues are, however, repeatedly damaged by the abrasion of the tooth brush, then a loss of local resistance must in time set in and make such tissues more prone to become infected. In this way gingivitis and periodontal disease may receive their start.

The erosion of the thin gum tissue around the neck of the tooth and the consequent injury to the periodontal membrane in this area opens up the softest portion of the tooth—the cementum—for invasion by micro-organisms and cemental caries is a possible result.

One important point that should be stressed is that however much the teeth and gums are brushed, and whatever antiseptic tooth powder is employed, the incidence to tartar formation is not to any extent lessened. In fact, the irritation of the gum and the outpouring of blood serum aids in the formation of seruminal tartar by providing the leptothrix buccalis with its calcium salts from the serum.

The next important point is that the tooth brush employed is rarely, if ever, sterile, and in most cases it is extraordinarily septic. This fact naturally adds to the risk of infection of the tissues by the micro-organisms present on the tooth brush, in addition to those already in the mouth. In fact, the use of the tooth brush "rubs in" the infection.

It therefore seems highly probable that the risks run in the removal of soft food from around the teeth by means of a tooth brush are out of all proportion to the benefits gained. It has, however, been stated that there is good reason to remove the food from around the teeth, and it is therefore necessary to suggest some means of accomplishing this without running the risks imposed by the use of the tooth brush.

The simplest and most effective way of cleaning away soft food from stagnation areas in the mouth is the eating of some hard fruit—such as the apple—at the conclusion of every meal, and also last thing at night. This has the dual effect of removing the food débris by friction, without damage to the gum epithelium, and it also stimulates the flow of an alkaline saliva to help in the flushing process.

The feeling of freshness in the mouth after eating an apple is notorious.

Another simple method of keeping the mouth clean is by the use of chewing gum after meals and last thing at night. The chewing of a piece of this material stimulates the salivary flow and removes food débris by mastication. The one

drawback to this method is that the chewing gum habit is not commended by social custom. There is no doubt, however, that it is a most efficient method of keeping the mouth in a healthy condition.

A third simple, though less efficient method, unless carried out properly, is the use of antiseptic mouth washes. If these washes are sufficiently strong as to be antiseptic and are yet not strong enough to damage the tissues, then their efficient use may be attended with marked benefit.

In each of these methods mentioned there is no risk of damaging the epithelium of the oral mucosa and the prevention of stagnation of soft carbohydrate food, and in most cases proteids as well, is diminished or eliminated.

If pieces of fibrous food, such as meat, should get anchored up between the teeth, then a tooth brush will not remove them any more easily than the methods mentioned, and the offices of a toothpick must be resorted to.

It is extremely difficult to persuade people to discontinue the use of a tooth brush entirely and substitute one of the methods I have mentioned, particularly as "tooth brush drill" has become so keenly advocated by the dental and teaching professions. It is therefore necessary to do the next best thing, and that is to make tooth brush drill as innocuous as possible. This can be done, and, in fact, the tooth brush can have "its teeth drawn" if the following points are attended to :—

(1) The tooth brush must *not* have hard bristles ;
(2) The tooth brush used must be sterile ;
(3) No abrasive tooth powder or paste must be used.

The first two points can be easily complied with if a hard bristled brush is bought and is sterilised in boiling water for 10 minutes. Quite a number of tooth brushes will stand this treatment, which serves the dual purpose of softening as well as sterilising the bristles. It would be advisable to boil the brush every time before use, but most brushes would not stand this treatment long, and it is not always convenient to have the necessary apparatus for boiling the brush handy.

Most people will, however, put their brushes into a disinfectant after use if such is convenient to hand, and by this policy of immersion when not in use a brush can be kept sterile for, roughly, three months. After this time it becomes increasingly difficult to preserve sterility except by boiling, and a new brush should be bought.

There are probably quite a number of disinfectants which can be scientifically employed, but that used with complete satisfaction by the investigator was a 10 per cent. solution of the proprietary article, Milton. This disinfectant is an excellent antiseptic, and has the virtue of remaining stable indefinitely, and, in addition, it bleaches the bristles of the brush and keeps them on the softish side.

The technique employed to determine the sterility or otherwise of the tooth brush used was as follows :—

A new tooth brush was taken into use and was taken from its case and tested for sterility at once. A sterile petri dish was taken and into the bottom was poured a little sterile normal saline ; the bristles of the tooth brush were then pressed into the saline and rubbed round, using about the same force as is commonly employed in brushing the teeth. The brush was then withdrawn and put into a glass container (with a hinged cover with a passage way in it for the handle of the brush) containing a 10 per cent. solution of Milton. Into the petri dish was now poured about 10 c.c. of melted agar, thoroughly mixed with the inoculated saline, and then the whole allowed to set. The petri dish was then put into an incubator at 37° C. and incubated aerobically for 24 hours, and then the number of colonies of growth of micro-organisms in and on the medium noted. After a brush had been used in the mouth in the morning it was rinsed out in a glass of water and then put directly into the container of the disinfectant. In the evening, before bed time, when normally it would have been used again, it was taken out of the disinfectant, rapidly shaken to remove any surplus solution, and then tested for sterility as described. The same procedure was employed when testing a brush which had been immersed in disinfectant all night.

It was found quite impossible to sterilise completely tooth brushes which had been in use for some time if, as is the usual rule, they had been merely hung up to dry after use and not put in a disinfectant.

The micro-organisms most resistant to the action of the various disinfectants employed were B. subtilis and other spore bearers—streptococcus salivarius, staphylococci and occasionally diphtheroids.

It may be of interest to point out here that the virtues of most dentrifrices are overstated, but that the one employed should at least be sterile. There are one or two quite well known dentifrices on the market which contain either B. subtilis or other spore bearers.

It is quite possible that the increasing difficulty of keeping a brush sterile after about three months' use is due to the fact that the micro-organisms may be protected by the concretions of the dentifrice which gather between the bristles of a brush after a certain period of use. The antiseptic properties

of such accumulations of dentifrice, mucus, etc., are practically nil, so that the micro-organisms are not killed; in fact, the organisms are protected from the action of the disinfectant into which the brush is put when not in use by the accumulations of dentifrice.

In conclusion, I feel that the case against using a tooth brush at all is very strong, and that any need of such a weapon has only arisen because the type and texture of the food demanded by civilisation has led to stagnation in the mouth. That this stagnation can be relieved by simpler, more effective and less dangerous methods than that of using a tooth brush I am sure, and I am equally sure that most people would have healthier mouths if they discarded their septic tooth brushes entirely, and substitute the methods I have mentioned.

The Spread of Disease.

I LOOKED round the room with some trepidation. It had not been easy to gain access. Indeed, of all the laboratories I have been in, I believe this was the most closely guarded. Absolutely essential to enter, I knew. The lot had fallen on me, and I couldn't return to my comrades empty handed. Well, anyway, one of the windows had at last been opened, and here I was.

A large room, larger than I had expected, and, as far as I could see at a first glance, unoccupied. I flew round tentatively. I knew well what to look for. Those round, shallow glass dishes were the things. Oh, I knew! This wasn't the first time I'd been on the job. Of late years we'd been forced more and more to visit the special laboratories. It was almost hopeless now to spend one's time on manure. Back in my great-great-grandfather's time that was well enough. My grandfather, too, I believe, had had some success that way, starting a large epidemic in a soldier's camp. No one, I knew, in my generation had ever seen a typhoid bacillus in manure. What completely mystified us was that the idiots should actually keep cultures on purpose. One was forced to the conclusion that it was only another example of the illogicality of these large, slow-witted animals. Ah, there they were! I could see them on a shelf in a glass case. Three or four of the dishes—Petri dishes, I believe, they call them—lay together, and one at least had typical old typhoid colonies that one knew so well.

I couldn't get at them, so I should have to wait till one of the idiots came to inspect them. They had a habit, I knew, of taking the lid off the dishes and prodding them with a piece of wire on the end of a long handle and then wiping the wire on another similar dish or pushing it down a test tube.

My friends would think me a long time over the job. All the more chance any way for them to find some suitable milk-pail into which I could regurgitate my contents, after I'd wiped my feet well on some householder's meat.

It seemed hours that I waited. Then at last the door opened and one of the species entered. Oldish, I could see at a glance by his bald pate, on which I settled gently. I should have to be careful, for I knew by experience that the older members were very short-tempered, especially the bald-pated ones. I'd nearly come to grief in my youth by a vicious back hand sweep from one such as this, and they're a little more intelligent as they get older, too. This one seemed fiercer than usual, and I soon wished I hadn't revealed my presence, for he chased me persistently, flipping a large white rag at me, one of the things they use to wipe their probosces, I believe. I didn't like to show cowardice, but this was becoming too dangerous. Once or twice he nearly got me.

Then I feinted and flew out of the window, thinking to return when he'd forgotten. But I never found that window open again, return as I did many times. So there's another good epidemic lost. Our work is certainly becoming most difficult.

C. F. B.

Guy's Hospital Gazette.

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An Interesting Case.

ONE day in August, 1927, the take-in H.S. was summoned to the Throat Floor at Out-Patients, and was surprised to find there a girl—E. L.—of 6 years of age, with a large painful abdominal tumour. She had previously been attending Mr. Mollison for the treatment of bilateral otitis media, and on exhibiting the Out-Patient card in the surgery had again been sent to his department. The middle ear disease appeared to have been effectively cured and to have no relation to the tumour under review.

She gave the following history. On June 5th, 1927, she had been seized with pain extending over the greater part of the lower right quadrant of her abdomen and right loin. It had been most severe in the region of McBurney's point. The pain had been constant, attended by nausea, anorexia and constipation, and its onset had been marked by an attack of vomiting. It had lasted about 48 hours and had then disappeared completely, leaving no trace of symptoms.

Again, on July 30th, she had a similar attack of abdominal pain, associated with initial vomiting and continuous nausea. The pain came on suddenly without any obvious cause and continued with no remission and but little variation up to the time of her visit to the throat department on August 2nd. Her temperature was then 99.6 and her pulse 136. Her tongue was furred, but not parched, and her bowels had been open once since the onset of the pain.

On examination the abdominal wall was seen to be distinctly raised by a tumour, the most prominent part of which was situated about 1 inch above and internal to McBurney's point. On palpation a well-defined tumour was found. It was tender and fairly hard. Fluctuation was uncertain. At first it appeared fixed, but further manipulation showed that it could with some difficulty be manœuvred through a definite range of movement of about 2 inches. Mr. Mollison gave the correct diagnosis, but the H.S. was led to interpret the case differently, and admitted her as an appendix abscess. In the ward the possibilities of an inflamed Meckle's diverticulum and appendix abscess were discussed, but the most probable diagnosis was thought to be a mass of tubercular glands with or without a central abscess. Mr. Turner's absence in Glasgow deprived us of the benefit of his opinion on the case.

Pain continued throughout the afternoon and laparotomy was performed in the evening, about 6 hours after admission. On opening the abdomen a large twisted ovarian dermoid cyst was found. It measured 4 inches in diameter and displaced 18 ounces of water. It contained bone and epithelial structures, and was shown microscopically to be innocent.

The interest of the case lies in the extreme rarity of dermoid cyst in young children.

Our thanks are due to Mr. Turner for permission to publish these notes.

E. H. R.

Papers by Guy's Men.

H. C. Cameron, M.D., F.R.C.P. A Craniopagus, *Lancet*, 1928, i, 284.

John A. Ryle, M.D. John Hunter's Cardiac Infarct, *Ibid.*, 332.

S. C. H. Worseldine, M.R.C.S. Subacute Combined Sclerosis of the Cord of Sudden Onset, *Lancet*, 1928, i, 338.

H. W. Barber, M.B. Sarcoid: Effect of Krysolgan Treatment: Gradual Absorption of Sarcoid Nodules, with Development of Prurigo (twice previously shown), *Proc. Roy. Soc. Med.*, xxi, 1927–28, 671; *Sect. Dermat.*, 21.

——— (1) Neurofibromatosis (von Recklinghausen's Disease) in a Woman: Three Children Affected with the "Forme Fruste" of the Disease; (2) Case for Diagnosis? Tertiary Yaws; (3) Two Cases of Nodular Lupus Erythematosus; (4) Benign Lymphogranuloma (Schaumann), previously shown on two occasions: Apparent Cure, *Ibid.*, 676–680; *Ibid.*, 26–30.

G. B. Dowling, M.D. (1) Prurigo Nodularis; (2) Lichen Spinulosus, *Ibid.*, 673–674; *Ibid.*, 23–24.

——— Case for Diagnosis. *Ibid.*, 687; *Ibid.*, 37.

C. P. Symonds, M.D. Cerebellar Tuberculoma; Medical Treatment; Improvement, *Ibid.*, 554; *Sect. Neurol.*, 34.

Guy's Hospital Gazette.

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Correspondence.

The College Catering.

DEAR SIR,—It came as a very pleasant surprise to see that the GAZETTE had at last tackled the question of the catering in the College. In order to see that this is not entirely satisfactory one has only to sit in the Dining Room for 10 minutes with eyes and mouth closed and listen to the succinct criticism going on all around.

This criticism ranges from mild grumbling at either cost, quantity, quality or service to complete condemnation of all four. Then, outside both these classifications, there is the man who enjoys his grumbling. He enters the Dining Room with a Satanic smile on his face, determined to find nothing right, determined at all costs to limit his intake to one mouthful of any single dish until that dish has been sent back at least three times for repairs. Without wishing to interfere with that man's pleasure, I would gently suggest to him that he is not doing very much to improve either the catering or his own health. I am not concerned with the latter, but I am very much concerned with the former, since I depend upon it for my daily bread.

If one were to go round the Dining Room during the course of a meal and inquire as to each man's complaints, it is probable that there would be no two complaints alike, taking into account the strong individual idiosyncrasies in relation to food and its cooking. Therefore it seems that the difficulties are not to be solved through rectifying faults complained of by single individuals, but by getting down to some basic stage in the production of the food or its service, which may account for several of these faults.

At once three sources of possibly fruitful investigation come to mind, namely, the purchase of the food, the cooking of the food and the service of the food.

I trust that this extremely tedious communication will not entirely have failed to serve its purpose if it stimulates somebody who has power to do these things to make investigations in or near the lines suggested.

Yours faithfully,
CREME GARBURE.

Guy's Hospital,
London, S.E.1.
February 16th, 1928.

[We think that perhaps this letter would have been more suitably addressed to the Catering Company, but we publish it in these columns in order to stimulate discussion in what must be a subject of widespread interest.—ED.]

Swimming Club.

DEAR SIR,—I wish to rectify an omission in the 1928 *Year Book*. W. H. Ogilvie, Esq., M.Ch., should have been included in the Vice-Presidents of the Swimming Club.

Yours faithfully,
O. M. H. JONES,
Hon. Secretary.

Guy's Hospital,
London, S.E.1.
February 6th, 1928.

Sport.

Rugby.

Inter-Hospital Senior Cup—2nd Round
Guy's *v.* King's College.

AT Richmond, on Tuesday, February 7th, Guy's—the holders—met and defeated King's by 4 tries (12 points) to 1 try (3 points).

Preen was still unfit to play, which meant that Ryan continued at fly half and Mostert completed the back division, otherwise Guy's were at full strength. Cove-Smith was unable to play for King's, who fielded their strongest available side.

In spite of the recent heavy rain the ground was in excellent condition, and a very fast and exciting game was seen. As in former matches, Guy's settled down very soon and scored an early try, which is always so valuable in Hospital Cup Ties. The ball was quickly heeled out from a scrimmage and Garland gave an equally quick pass to his partner, Ryan. The latter, after a penetrating run, gave to Lewis, who had no difficulty in crossing. Durr failed to add the extra points. Guy's continued to keep up the pressure and eventually managed to secure a second try. Garland, in spite of the close attentions of his vis-a-vis, seized an opportunity to throw himself over the line, to make the score 6–0 in favour of Guy's.

In spite of this reverse King's were by no means beaten, and began to fight back with plenty of vigour and determination. Early in the second half King's exerted great pressure. First C. J. Farr broke through with a brilliant run, but gave an impossible pass to Knox, when a score appeared certain.

Next, the King's forwards burst through our defence, and in attempting to clear behind his own goal line, B. G. Scholefield was unlucky to slice his kick, but, fortunately, the ball went out of play just when one of the King's forwards was in the act of touching down.

However, from the kick off A. Gilpin fielded the ball and ran right through our defence to score too wide out for Salkinder to convert.

The excitement was now intense, as everyone realised that anything might happen in a Cup Tie. However, from this point Guy's settled down to play delightful football, and gradually the King's defence weakened, and before the end Robinson and Myburgh both crossed our opponents' line.

Taking the game as a whole, Guy's were clearly the more experienced and clever side. The backs ably supported the forwards, but the centres were inclined to leave it too late before giving the final pass to the wing. Garland required a lot of watching and was as elusive as ever, whilst his partner, Ryan, was very effective and made some splendid runs through the centre. Lewis and Robinson made a useful wing and would have scored several times had it not been for the splendid tackling of F. C. Mayo, whose defence was excellent.

P. D. B. Spence kicked with excellent judgment, and of the forwards, who were all in excellent form, Popplewell, Myburgh and Cameron showed up conspicuously.

Guy's Team—P. D. B. Spence ; T. G. Robinson, A. J. D. Lewis, F. H. B. Spence, G. V. Mostert; D. F. Ryan, T. O. Garland ; J. R. F. Popplewell (capt.), W. H. Myburgh, J. Durr, G. G. Cameron, B. G. Scholefield, J. H. Cullinan, C. D. Malone, A. Simpson-Smith.

Guy's *v.* Plymouth Albion.

AT Plymouth, on Saturday, February 18th Guy's had to admit defeat in the last minute of the game by 2 dropped goals and 3 tries (17 points) to 2 goals and 2 tries (16 points). It was a most exciting game and, judging by the reception given to the Hospital XV, Guy's must be very popular visitors.

Plymouth for the first time for many months were able to field their strongest side, which included Hanley, Stanbury and Sparkes, Internationals who had represented England the week previously.

Preen was able to resume his place in the Guy's side and Ryan returned to his place at right centre. Morgan and Hogbin were included in the pack vice Scholefield and Cameron, who were unable to make the journey.

The ground and weather conditions were simply ideal and, according to local reports, few games at Beacon Park have produced more thrilling Rugby than that between Plymouth and Guy's. When one mentions that the lead changed hands no fewer than four times it will give a little indication of the excitement that reigned. The climax was reached in the very last minute, when Guy's were leading by 3 points. Rees had crossed our line but was pulled back for an infringement. Just afterwards the ball came back to Rees, on the left wing, who cut inwards and, steadying himself, kicked a magnificent dropped goal, to give Plymouth the victory.

Guy's opened and at once set up a nice round of passing, which broke down when Ryan was brought down by Granger with a good tackle.

The Albion pressed Guy's back to their goal line, but Garland cleverly got the ball from the scrum and fed Preen, who short punted to the 25. Robinson caught the ball on the bound and, with a thrilling 75 yards run, outpaced the Albion defence, beat Dyer the full back, and registered a try for Guy's, which Durr converted.

This early reverse put the Albion on their mettle and, after the Guy's backs had exploited the reverse movement from the scrum, Merchant intercepted and, breaking clear, drove the ball past P. D. B. Spence. Merchant succeeded in the race for the touch down and scored for the home side. Stanbury failed to convert.

Very soon afterwards Garland slipped away from a scrum on the half-way line and, after beating the intermediate defence, went on without any support in a great run to score an unconverted try.

For the Albion Stanbury made a big effort to reduce the arrears, and, later. Hanley went very near with a penalty from the half-way line. The game continued to be packed with live football, and reaching the Guy's 25, Richards and Hanley paved the way for the ball to reach Evans. After tricking his way through the backs, he dropped a fine goal with his left foot.

Before the interval Robinson beat Rees in a fine run on the wing, but Hanley raced across and bowled him into touch.

Guy's continued to press, but there was no further scoring before half-time, when Guy's led by 8 points to 7 points.

The second half opened with a tremendous battle between the forwards. The home right

wing were nearly through, but Lewis saved near the goal line.

Following a series of quick transfers between the half backs, Stanbury was enabled to cross our line for a try, which he failed to convert.

Guy's then took up the attack and after good work by our forwards and a blunder by Dyer, the ball travelled quickly to Robinson, who, with a fine dive, again scored in the corner.

A few minutes later Plymouth broke away through Merchant, who gave to Sparkes, who plunged over for an unconverted try.

The Albion did not hold their advantage for long, as the Hospital backs handled the ball perfectly and F. H. B. Spence scored near the posts ; Durr converted.

Then came a wonderful effort by Rees, who dropped a fine goal in the last minute and gave Plymouth the victory as stated above.

Guy's Team—P. D. B. Spence ; A. J. D. Lewis, F. H. B. Spence, D. F. Ryan, T. G. Robinson ; V. R. Preen, T. O. Garland ; J. R. F. Popplewell, W. H. Myburgh, J. Durr, J. H. Cullinan, C. D. Malone, A. Simpson-Smith, R. A. P. Hogbin, T. Morgan.

Hockey.

Senior Inter-Hospital Cup.

1st Round.

Guy's *v.* U.C.H.

AFTER a postponement, due to our usual " bete noir " the weather, this match was played at Richmond on Wednesday, February 15th, and in spite of recent rain the pitch was fast and true.

We faced the slight slope for the first half, and from the bully-off Curtis nearly got through, but was stopped by H. M. Chapple, the old Cambridge Blue, who was playing right back for U.C.H.

Soon after this our opponents broke away from their own 25 and by swinging the ball about vigorously passed our halves and backs, who were caught standing square, but, fortunately, the movement was spoilt by the man who netted being offside.

Almost immediately their right wing evaded Sykes, who had been injured before the start, and from his centre their inside right scored from close range.

Again U.C.H. penetrated our defence, but this time Schofield rushed out and kicked clear before they could shoot. It was now our turn to attack, and from a melee in the U.C.H. circle, Archer flicked at an empty goal from an awkward angle and only missed by inches.

The true ground made the play so fast that U.C.H. were already showing signs of tiring, but it was some time before Conybeare, obtaining the ball in midfield, centred early for Curtis to run through our opponents' defence and score with a one-handed shot which rose head high.

From the bully-off U.C.H. attacked, but Schofield and Hayward kept our goal intact, and Camps then passed to Peatfield, who outran their defence and drew Chapple across before passing to Curtis, who scored an easy goal with another one hand hit. At this point we were definitely superior, and a few minutes later Peatfield added a third goal from the rebound of one of Archer's shots.

Just after half time Archer hit the crossbar with a flick. We continued to press, and from one of Peatfield's shots the goalkeeper kicked the ball into the air and Lyne, running in, hit it into the goal as it fell.

At this point U.C.H. improved and broke right through our defence, and their inside left scored from the right wing's centre. Again they repeated this manœuvre, but this time Schofield cleverly charged down the shot.

The U.C.H. left wing was kept very subdued throughout by the extraordinarily sound play and efficient marking of Howitt, a model for the 2nd XI wing halves to copy.

Our better training now asserted itself. U.C.H.'s bolt was shot, and we added two more goals, Peatfield scoring one and Curtis the other from a centre by Conybeare. Thus we ran out winners by 6–2.

Our three lonely supporters applauded heroically, but we hope to have more support for our match against Bart.'s in the semi-final.

Guy's Team—J. B. Schofield ; F. R. Hayward, G. N. Carrell ; C. N. Howitt, F. E. Camps (capt.), R. A. Sykes ; E. T. Conybeare, A. H. Curtis, C. A. W. Archer, S. R. Peatfield, H. O. Lyne.

Boxing Club.

Guy's *v.* Goldsmith's College.

A VERY pleasant boxing match *v.* Goldsmith's College was fought at New Cross on Monday, February 13th. Six weights were represented, the result being a draw.

The first bout of the evening was between H. Cameron and G. E. Thomas of Goldsmith's. Cameron boxed very skilfully, his footwork being excellent. He obtained the verdict on points.

Our featherweight, N. I. Kronenberg, gave an impression of lightning speed, which lasted for two rounds. In the last round, however, the pace was too great and he began to hit wildly. The decision was given to his opponent.

L. D. Dale, lightweight, met a good man in J. Nicholson. The bout was well worth watching, and it was difficult to say which man showed the better style. Dale was unfortunate to lose.

In L. Yendoll our hopes lay for the welter-weight, and we were not disappointed. Yendoll has a nice left and used it to his own advantage, and to the disadvantage of his antagonist.

J. H. Timpson, in his first appearance in the competition ring, proved that he had plenty of stamina. Although he lost his fight we may congratulate him on three keenly-contested rounds.

R. N. C. Smith won the light-heavies on points, bringing up the score to three all.

We hope to have the pleasure of meeting Goldsmith's College again next year.

Fencing.

Inter-Hospital Competition—Final Pool.

THE final pools of the Inter-Hospital match were held at the Sallé Bertrand on Saturday, January 21st, 1928, at 2 p.m., and resulted in a win for Guy's by 3 points.

The preliminary pools were held at Bertrand's during the realier days of the week, and we were unfortunate in not getting six into the finals. However, Monkhouse struck the very worst form he has shown for seasons, and was knocked out in the preliminary pool in foil. Garrus came through with one defeat. In epée Gorer, with one defeat, and Johnson, with no defeat, qualified for the final. In sabre, Garrus, with one defeat, and Morris, with two defeats, both qualified.

Both Guy's and U.C.H. had five left in the finals, and it looked as if the tussle were going to be very close. The foil was won for the second year in succession by Stroud, of St. Mary's, with no defeats, Collors, of U.C.H., second with one defeat, and Garrus third with two defeats. Cowan, of U.C.H., was last with five defeats.

The epée was won by Gorer with no defeats—an excellent display—Collins second on the barrage for second place with three defeats. Bree, of U.C.H., fourth, and Johnson—who was unable to do anything right—last with five defeats.

During the epée Garrus, who was in the middle of a strenuous "take-in," had a shower.

The sabre was won by Garrus after a barrage with Collins, each with one defeat. Morris came fourth after a barrage with Gordon, of St. Bart.'s, each with two defeats.

Both Gorer and Garrus are to be warmly congratulated on winning the epée and sabre respectively, each showing excellent form. Morris played extremely well, and had he showed a little more patience in the barrage should certainly have beaten Gordon when he had the latter 1–3, but his eagerness lost him the last three points.

	Result			
	Foil	*Epee*	*Sabre*	*Total*
Guy's	8	10+5	10+7	40
U.C.H.	9+5	8+6	9	37
St. Thomas's	7	9+7	6	29
St. Mary's	10	0	5	15
St. Bart.'s	0	0	8	8
St. George's	6	0	0	6

Guy's *v.* R.N.C., Greenwich.

THE return match against the R.N.C. was held at Greenwich on Friday, January 20th, 1928, in the middle of the Inter-Hospital Competition.

We were only able to muster a team of three for the foil, and lost by five matches to four.

The epée showed a little higher standard of play, and we won by 8 to 7, with one coupé double.

Sabre was all for Guy's, and except for the good and consistent play of Rawnsley, of the College, only one defeat was registered. This we won by 11 to 5.

Foil

	Wins	*Defeats*
J. F. Morris	2	1
E. L. Monkhouse	0	3
C. H. Johnson	2	1

Epee

	Wins	*Defeats*
J. F. Morris	2	1*
F. S. C. Pritchard	1	3
E. L. Monkhouse	3	1
C. H. Johnson	2	2

* 1 Coupé Double

Sabre

	Wins	*Defeats*
J. F. Morris	3	1
F. S. C. Pritchard	2	2
E. L. Monkhouse	3	1
C. H. Johnson	3	1

Total—Guy's 23, R.N.C. 17.

Births.

REA—At Iona, Hamilton Road, Bangor, Ireland, on January 8th, 1928, to Dr. and Mrs. S. Patterson Rea (née Shackleton)—a son.

MURRAY—On February 13th, 1928, to Hilda Grace, wife of H. Shires Murray, L.D.S., R.C.S.(Eng.), of 43, Park Road, Bingley, Yorks—a son.

EDS. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

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ON the afternoon of Friday, March 2nd, a large gathering of former Ward Clerks, Clinicals and House Physicians accompanied Dr. Beddard on his last round in Stephen and Mary wards. The severance of a teaching connection with the Hospital extending over some 30 years was marked by one of the most brilliant expositions of clinical cases it has been our privilege to attend. The discourse at each bed was delivered with all the forcefulness of phrase and manner so well known to the majority of the listeners, while we feel sure that all present registered there and then a mental vow to avoid the cardinal sin of getting too near the patient, and promised themselves to eschew all "penny-in-the-slot" methods and to uphold the clinical tradition that has come down to us from men like Addison and Bright, who, in Dr. Beddard's words, "got there by different methods, but got there just the same." The close of the round, with the details of an experience in Germany brought us the consoling assurance that "English medicine is not to-day the benighted thing it may appear to be"—a happy fact for which Dr. Beddard himself is in no small measure responsible.

But Dr. Beddard was not allowed to depart so easily, and on Monday, March 5th, his "going off" dinner was held at Gatti's. A large number, forcibly limited to reasonable proportions, of his old Ward Clerks, House Physicians and Clinicals were there to wish him, not so much a farewell, as every good wish for the new period on which he is ente ing. For one cannot conceive of Dr. Beddard retiring from anything, but rather of him shifting his point of view to a new angle, enjoying certainly the prospect of new work, or old work revived, while regretting what he is giving up. In fact, in a speech which was as lucid as all his utterances are, he admitted to us that he did not intend to sever himself from Guy's, but merely to shift his scene of action to one more academic than that of clinical medicine. He concluded, in more serious vein, by expressing his deep anxiety for the future of the younger men present, and exhorted them to withstand in a body every attempt to do away with the principle of the voluntary hospitals. Among other speakers were Dr. Baird, who, as Dr. Beddard's last Registrar, was in the Chair, Dr. Knott, the oldest Beddard H.P. present, who proposed the toast of the guest of honour, Mr. Thompson, who excelled himself in reminiscences of Dr. Beddard, Dr. Mutch, Mr. Clifton, present H.P. to Dr. Beddard, to whom belongs the credit of organising the dinner, Dr. Marshall, Mr. Frank Cook, who appealed to Dr. Beddard to bring his very sane and clear outlook to bear upon the multitudinous problems other then technical ones faced by the medical profession as a whole, Dr. Conybeare, Dr. Symonds, Dr. Dowling, Mr. Ogilvie, Mr. Lane, the President of the Residents, Dr. Campbell and many others. One and all had something fresh to say about Dr. Beddard, who confessed at the end that he had learnt more about himself in one evening than in the rest of his life.

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IN our Correspondence Column will be found a letter appealing to Fellows of the Royal College of Surgeons at Guy's to vote for Mr. Steward's re-election to the Council. We need add little to this letter except to say that Mr. Steward is now a Vice-President of the Council and to remind

our Fellows of the obvious advantages to be gained by School and Hospital by having Senior Surgeon on the Council for a second period of office. There are four vacancies in the Council, and so each Fellow has four votes.

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Our defeat at Richmond came perhaps somewhat as a surprise to ourselves, as well as to other people. It was certainly not to be expected on the form revealed in club games since Christmas, but is not really unaccountable when we consider that the team faced the Cup Tie while still suffering from the gruelling game with Plymouth a few days before. The West Country team have always proved rather a tough proposition, and in this instance Garland came back with an ankle injury that put out all possibility of his playing for at least a week. In spite of this serious disorganisation of our back division, we were not so markedly inferior in the game itself, but further injuries hampered us while fortune smiled upon the goal kicking efforts of our opponents, so that in the end the match became merely a hopeless scramble.

We can but wish the victors the best of luck in their final tie, and assure them of our best attention as early as possible next year.

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We are asked to announce that the 29th Annual Dinner of the Dental Society will be held at the Trocadero Restaurant on Saturday, March 17th, at 6.45 for 7.15 p.m. The President, Mr. Arthur Bulleid, M.R.C.S., L.R.C.P., L.D.S., R.C.S., will take the Chair.

In view of the date coinciding with that of the England *v.* Scotland match at Twickenham, an exceptionally large muster of provincial members is anticipated.

Tickets may be obtained from the Hon. Secretary, Mr. C. A. W. Archer, or any member of the Committee.

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On Tuesday next, March 13th, at 5 p.m., Sir William Bragg will deliver the third Fison Memorial Lecture in the Medical School. The subject of the Lecture will be "The Structure of an Organic Crystal." Tickets, which are free, can be obtained at the Medical School Office. The two previous Lectures have been delivered by Professor J. J. Thompson and Dean Inge respectively.

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We understand that one evening quite recently members of the Massage Department persuaded certain gentlemen of their acquaintance to take remedial exercises in the Court Room. The exercises in question were of the Casani rather than the Bertrand type and the correct costume proved to be slightly different to that adopted by the Department during their frequent ventures into the higher flights of eurythmics we are privileged to witness from the Park. The gentlemen were called upon to exhibit a certain amount of orthopædic knowledge, and were not found wanting. In other words, the Massage Dance was a complete success. That it was a popular event was proved by the great demand for invitations, of which only a limited number could be given owing to the size of the Court Room.

Mrs. Trethowan acted as hostess with her usual efficiency. Greenway's Band, which has the somewhat rare merit of playing innumerable encores and giving only very short intervals, provided very good music indeed. Amongst those present were Lady Perry, the Matron and Sister Massage. Mr. Trethowan, to the regret of everybody, was absent owing to illness.

We are sure that the Guy's men who were present will join us in thanking Sister Massage and the Massage Department for providing a very enjoyable evening. It is hoped that another of these dances will be held and that it will perhaps help to bridge the very definite gap between Shepherd's House and the rest of the Hospital.

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We regret to record the death at Travancore, South India, on February 15th, 1928, and at the age of 24, of William Ruzzak, who entered Guy's as a medical student in October, 1922. Of a quiet and unassuming disposition, he was one of the best liked men of his year, and the news of his death comes as a shock to those of us who knew him.

In the summer of 1925, when he was about to take the second M.B. Examination, he was admitted into Addison Ward with the first symptoms of the illness from which he never recovered. There he remained for six weeks, after which, knowing that an active life would be impossible for him for some time, returned to India. His condition slowly became worse, and finally resulted in his death.

While at the Hospital he won a considerable reputation, both in his work and as an athlete. He was a member of the Cricket and Football Clubs, the latter awarding him a Blue, and his good sportsmanship both on and off the field considerably enhanced his popularity.

Through his death many of us lose a valued friend, and one who would worthily have upheld the greatest traditions of the medical profession.

Some Emergencies in Nose and Throat Work.

A Lecture by Mr. Mollison, in the Anatomical Theatre, Guy's Hospital, February 6th, 1928.

GENTLEMEN,—The word *emergency* indicates that we as surgeons have to do something active perhaps to save the patient's life, or at any rate save him from very great discomfort and distress. Our speciality concerns two functions vital to life—breathing and eating—and interference with either of these functions is incompatible with life, and interference with one of them is very unpleasant if it goes on for more than a very short time.

We will divide our subject into four sections and deal with :—

(1) The Nose ;
(2) The Pharynx ;
(3) The Œsophagus ;
(4) The Larynx and Lower Air Passages

(1) *The Nose*—

An emergency you will have to meet is *fracture* of the nose. Such an accident involves the æsthetic side of life and is perhaps scarcely an emergency ; nevertheless, it is better to restore the position of the nose fairly soon after the accident. There are forceps devised to deal with fractures of the nose ; they have flat blades and they are introduced into the nose on either side of the nasal septum. Then, by the finger on the outside, the nose can be moulded back, as it were, into its normal shape ; except in very severe injuries splints are not needed. This accident is perhaps scarcely in the nature of an emergency, as treatment can be safely postponed for two or three days.

Another fracture that involves the nose specially is a fracture of the anterior fossa of the skull. Here the nasal surgeon is not called upon to do anything active, but to consider the best treatment should there be an escape of cerebro-spinal fluid from the nose. It is very important to keep the nose as clean as possible ; under no circumstances should douching be advised or allowed, the nose should merely be kept from contamination by means of wool plugs in the nostrils.

We next come to an emergency which you will frequently have to meet—*epistaxis*. Nose bleeding may vary enormously in degree from being merely a nuisance to being a very real danger to life. Indeed, I have known a case where bleeding went on in spite of treatment and the patient died simply and solely from loss of blood.

The common type of epistaxis takes place from one side of the nose ; if it is severe and the patient holds the head up, the blood may run back, and so reach the opposite nares and thus appear from both nostrils.

The bleeding usually occurs from the anterior part of the septum and very often about half-way down ; the vessels that commonly bleed are those that run across the septum from below upwards. But this is not invariably the case. Sometimes the bleeding takes place near the floor of the nose, where it is very much more difficult to observe and to stop. Again, bleeding may take place quite far back ; that was so in the case I mentioned in which death occurred. We must remember that there are many diseases in which epistaxis occurs as a result of that disease—for instance, renal disease and arteriosclerosis. In young people acute infections—*e.g.*, measles, scarlet fever—are often ushered in by epistaxis, also foreign bodies and nasal diphtheria are often the cause of bleeding. The treatment of the ordinary case of epistaxis is as follows. By mopping the nose with wool determine the exact position of the bleeding spot. Take a little piece of wool, soak it in 5 per cent. cocaine and an equal quantity of adrenaline chloride, 1 in 1,000, and apply it to the area of the septum whence the bleeding is coming. Get the patient to hold it in position by pressing the ala nasi against the septum for 10 minutes ; at the end of that time you will find the area quite dry. In mild cases touch the spot with solid silver nitrate or some other caustic. In more severe cases use an electric cautery ; get the point red hot and touch the spot with it. Often the application of the cautery will start the bleeding from the point previously observed, thus making it easy to know the exact spot to attack. This cauterisation is successful in the majority of cases, though it may have to be applied on more than one occasion.

Much more difficult is it to stop the bleeding when this is from the floor of the nose, as it is difficult to see ; the blood wells up and prevents exact observation. In such a case after the application of cocaine and adrenalin, hold the cautery at a dull heat till the bleeding appears to have stopped. Sometimes the bleeding occurs so far back in the nose that the bleeding point cannot be seen ; in these cases the nose must be plugged. This may be done with gauze or wool, appropriately shaped, packed in. If you have no particular instrument with you except a nasal speculum and forceps, you can take pieces of wool and make them into a sausage shape, about the size of a little finger, moisten with adrenalin or hydrogen

peroxide, and push them into the floor of the nose, placing one of them well down, then another on top of that, and so on, until the bleeding stops. Perhaps the best and least painful method of stopping severe epistaxis is the Cooper Rose's nasal plug. This plug consists of a piece of gum elastic catheter, 4 or 5 inches in length, over which is passed a thin rubber finger-stall. The open end of the stall is fastened to the catheter with rubber solution, and so made airtight. The eye of the catheter is thus inside the finger-stall, and air blown through the catheter distends the finger-stall. A tap on the catheter prevents escape of the air. When collapsed the plug is smeared with vaseline and passed in along the floor of the nose, and then blown up. The finger-stall thus presses equally on every part of the nose and stops the bleeding, wherever it may come from.

There is one other way in which a plug may be introduced, and that is post nasally. Fortunately this method is very rarely necessary, as it is most painful and if the plug is kept in for more than a few hours it is most likely to cause infection of the middle ear via the Eustachian tubes. Such a post-nasal plug must be introduced through the mouth and pulled into position by a tape through the nose. To facilitate the introduction of the tape, Bellocq's sound may be used. This is a tube and plunger curved at one end; the plunger is on a curved steel spring. The instrument is passed through the nose and the plunger pushed out of the far end, when the spring causes the end to appear at the back of the throat. A tape is then fastened to the plunger, which is withdrawn, bringing the tape out of the nose. A plug can now be fastened to the "mouth" end of the tape and pulled into the nasopharynx, so blocking the posterior nares.

Another emergency in the nose is *hæmatoma of the septum*, which often follows a blow on the nose, generally in children. It shows itself as a smooth, bilateral swelling of the septum, and is due, as its name implies, to hæmorrhage. This hæmorrhage is sub-perichondrial and always becomes infected; as a result of this suppuration necrosis of the septal cartilage is apt to occur with resulting deformity. It is therefore necessary to open these hæmatomata early; in older children local anæsthetic can be used, in younger ones give an anæsthetic. Make a free incision one or both sides of the swelling and let out the pus. There is only one point to remember. The openings are rather apt to close too soon, and you must make sure to drain them for the first 24 or 48 hours. If you do this they heal very well indeed, and the cartilage is saved from destruction.

There is one last emergency in the nose that I would refer to—the intense *pain* of *sinus infection*, antral or frontal. The pain of sinus retention is often very severe, but in many cases it can be successfully and speedily relieved by the application of adrenaline and cocaine to the middle turbinal.

(2) *The Pharynx*—

The only two conditions that I think we need consider as emergencies are foreign bodies and abscesses. We will deal with foreign bodies first. Here is a specimen which I expect some of you have seen in the Museum, a very unusual specimen—the larynx and the upper aspect of the tongue and an enormous piece of meat impacted there. This was a patient who was in rather a hurry and tried to swallow the piece of meat; it stuck and obstructed the common food and air passages and he died in a few moments. It is scarcely possible that a doctor could be called for a case like this soon enough. But there are less severe cases in which patients swallow lumps which are too big for them to dispose of and which obstruct their air passage to some extent. The obvious treatment is to remove the lump of food with the finger or curved forceps. Should this be impossible and the patient's breathing be embarrassed, tracheotomy may be needed.

Much more common foreign bodies are little bits of bone, fish bone particularly, which stick in various parts of the pharynx. They are extremely unpleasant to the patient, because every time he swallows his saliva or food this foreign body pricks him, and in some instances he will not try to swallow. These foreign bodies are most apt to lodge in the tonsils or at the back of the tongue. The secret of fishing out foreign bodies from the tonsil is in having a really good light reflected into the mouth from the forehead mirror. Often there is only a minute piece of bone sticking in the tonsil, and you will have to look very carefully over the surface in order to see it. If a foreign body of that kind is in the back of the tongue, the laryngeal mirror may be required to reveal it. In the pharynx the other emergency is acute abscess, *quinsy* or *retropharyngeal abscess*. Quinsy or peritonsillar abscess is most painful, it makes swal owing almost impossible. In addition, the patient has symptoms of severe septic absorption; unless relieved it may lead to œdema of the pharyngeal wall and even of the glottis.

In the early stages of a quinsy give antistreptococcal serum. To open a quinsy a short-bladed knife may be used, and the incision made just above the border of the anterior pillar of the fauces in the softest area of the swelling. Never give a general anæsthetic.

Retropharyngeal abscess generally occurs in children, rarely in adults. The reason probably is that the retropharyngeal glands, which supply

the focus for the abscess, disappear in adult life to a great extent. Retropharyngeal abscess generally appears at or below the level of the soft palate, so that it is immediately seen on looking into the mouth. But it may occur lower, between the level of the base of the tongue and the epiglottis, and obstructs the airway as well as the food; therefore inspiratory stridor in infants may betoken deep retropharyngeal abscess. Treatment of this is simple, but requires a little care. Wrap the child with its arms by its side in a blanket, so that it may be easily controlled. After introducing a gag, place a finger on the swelling, pass in a short-bladed knife along the finger and thus open the abscess. Instruct the nurse the moment you have done this to turn the child on its face, in order that the pus may run out of the mouth and not down to the larynx.

To open a retropharyngeal abscess in an adult or older child, particularly if it is high up, as it usually is, an anæsthetic may be given. A Davis gag such as is used for enucleation of tonsils is then introduced and incision made under good illumination. Since the patient's head is thrown well back there is no fear of the pus passing to the larynx.

(3) *The Œsophagus*—

Lodgment of foreign bodies constitutes an emergency. Generally speaking, the sooner the removal can be effected the better. Ulceration of the œsophagus has occurred within 48 hours owing to a half-penny; on the other hand, a few cases are known in which small foreign bodies have remained for months. The bodies usually lodge in the highest part of the œsophagus, behind the cricoid—really the hypopharynx—though they are met with anywhere in its length.

Except in rare cases, foreign bodies should be removed through or by means of an œsophagoscope, that is, under direct vision. The use of the coin catcher is seldom wise, unless it be known that the foreign body is a coin and that it has been recently swallowed. The probang should never be seen, still less used.

(4) *The Larynx and Lower Air Passages*—

Inhalation of foreign bodies may be immediately fatal by producing glottic spasm and reflex heart failure, but fortunately this is not frequent. On the other hand, once the initial spasm of cough from the irritation of the foreign body in the larynx or trachea or bronchi is recovered from, the patient may be comparatively comfortable. Indeed, once the foreign body has reached a bronchus it may remain for years, to be finally coughed up with complete disappearance of all the signs it produced. We are thus led to the conclusion that it is safer to leave a foreign body—this only applies to certain kinds of foreign body—in a bronchus than in the œsophagus.

The emergency, however, remains when the foreign body is inhaled, since the patient is in danger of suffocation. To meet this emergency either the foreign body must be removed or a tracheotomy be performed to overcome the dyspnœa.

To examine the larynx and remove a foreign body from it direct examination must be carried out by means of the peripherally illuminated laryngeal spatula, such as is used every day for passing the catheter when giving intratracheal insufflation of ether. If by chance the foreign body is between the cords it can be grasped through the spatula with suitable forceps and removed.

If this examination shows a normal larynx and the patient shows signs of respiratory distress, the safest course is to perform tracheotomy either without anæsthetic or if time allows under local anæsthetic. The operation will relieve the patient's urgent symptoms, and it is possible the foreign body will be coughed out through the wound.

To remove foreign bodies from the bronchi or trachea requires the use of a bronchoscope, and this can scarcely be said to be an emergency operation.

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Some Naval Adventures.

Address delivered by Surg. Vice-Admiral A. Gaskell, C.B., F.R.C.S., in the Physiology Lecture Theatre, Guy's Hospital, February 27th, 1928.

MR. CHAIRMAN AND GENTLEMEN,—I think it is perfectly sporting of you all to have come to listen to me when you might have been out in this lovely sunshine. Thank you for coming. As you know, Guy's Hospital is one of the finest medical schools in the world, and my idea in coming here to-day was twofold. One is that the Navy wants the best type of doctor, and the other is that you Guy's men want the best kind of career.

Very often people decide what their career is to be without, perhaps, sufficient information. Just at present the Navy is a very fine branch of the medical profession, and I should like that this plum, as it were, be plucked by you rather than that it should not be known about by you, and perhaps fall into the mouth of less desirable candidates. I did not know that my remarks were being taken down. Well, what I say now you fellows must not go and talk about in the House of Commons, or anything of that sort, otherwise you may get me into trouble.

Anyhow, one thing I have to apologise about is that in this short address the *ego* will come in pretty often. I believe that in genteel circles it is not correct frequently to use the *ego*. But I hope you are not of the genteel circle, and so you won't complain that in this short address I tell you too much about myself. It is a sort of example of what may happen to anybody who joins the Navy as a doctor.

When I was quite a schoolboy I made up my mind to be a sailor. My mother said she wanted one of her sons to be a doctor, as a doctor's was the finest profession in the world. To please her I became a doctor, and I liked it very much. To please myself also I joined the Navy, and so, as a kind of compromise, I became a Naval doctor. I was not taught at Guy's Hospital, but do not blame me for that. The Navy has some of the most brilliant and shining lights in the medical profession—one of them is sitting here now—who have come from Guy's, and we have plenty more.

Having decided to join the Navy, everything I did, every bit of daily interest, was all towards that one object, and, as you know—you who are the finest football medical school in the world—if you want to get a try the thing is to run as straight as you can and get over the line. Once you have decided to be a Naval doctor, everything you do is shaped towards that end. At one time—I am talking of long ago—it was not thought at all necessary to be highly qualified. All you had to do was to get in young and then automatically you would not have too long to get higher and higher towards the top. My father's Admiral friends said: "Do not send your boy to Cambridge. That is waste of time. Send him to the Navy as soon as you can." After I got qualified as a medical man, some of my friends said, "Will you not take something higher than that?" I took my Primary before I entered the Navy, and then on going into the Navy I got an opportunity to take my Final Fellowship, and that Fellowship has been a great asset to me all through my career. I have watched other medical officers in the Navy get some higher qualification that has lifted them above the dead level. It is a most useful asset towards getting to the higher ranks in the Navy. On your Notice Board you have seen a placard, sent round to the different schools. It is rather sordid because it tells you what you are paid in the Navy. But we all have to think a little about £.s.d., and that placard helps you to see that the pay we get in the Navy is quite good. A pension is a thing for which very often the civilian has to work very hard and to spend a lot of the money he makes, and he does not save enough to live decently on, as we in the Navy are able to do on the pension we get.

But I want to tell you something about the real title of this Lecture—"Some Naval Adventures." Just a few words about first joining up. That is rather amusing. You go to the ship with your uniform and one of the officers impresses upon you the importance of it, and how to live with one another, and so forth. On one occasion one young fellow decided that he was not going to wear any uniform except one made in his own village, which was in the South of Ireland. He came with the most wonderful set of uniform. He had got a full Admiral's stripes on his arm, a wonderful red tie with blue forget-me-nots, and a railway porter's cap. That sort of thing adds to the fun of life.

At anyrate all of you serve one another as a pleasant sort of corrective, until you know how to lash yourselves up in the correct way. If you

are a right type of person I cannot imagine a finer life than that of a Naval medical officer. If I had my life to live over again—it is not all over just yet—I should again choose to be a Naval doctor. Do not run away with the idea that we are all of us allowed to rust, so to speak, and that all we think about is drinking and that sort of thing. Those old fairy tales to that effect ought to be crushed once and for all. I have written a short account of the Royal Naval Medical Service to the Editor of your Magazine, and I am asking him to print it. He did have one inserted by some kind friend whose kindness was greater than his knowledge of the subject, and whose account was not absolutely correct and up-to-date. So it stimulated me to write perhaps something a little bit more absolutely straight from the horse's mouth. If your Editor allows it to be printed, I ask you, before you decide not to join the Navy, to read it through.

The first foreign station I went to was on the east coast of South America. We went from the mouth of the Amazon right down to the Falkland Islands. It was a wonderful experience for a young man who had never been abroad before. You saw the wonderful virgin forests of Brazil, where you might hunt for gold and diamonds and that sort of thing. You could have done anything you like in following the footsteps of Darwin and that sort of people. You could have been interested in one thousand and one things, in addition to being interested, first and foremost, in your ship as doctor. As regards sport, there was every kind of sport. Shooting in Uruguay and the Argentine was wonderful. We let off a thousand cartridges in three months sometimes. Those of you who have never let off a gun before, and want to get used to it, go out to South America. Do not forget to buy a gun, which you can obtain there for 25*s*., and go shooting along those valleys.

While I was out there quite a lot of things happened to me. I was taken prisoner in a rebellion, one of the usual South American rebellions. We quelled a mutiny on board a merchant ship. I will tell you a little about that because it was really rather an event in my early life. We had just finished dinner, and meantime a gale was blowing, one of those gales that come off the pampas, and it beat up the shallow water of the estuary where we then were into a tremendous big sea in next to no time. To that station came a little open boat, and the men in it managed to get hold of our gangway, and they said they had come from a merchant ship where there had been a mutiny and two of the officers had been stabbed, and would we send assistance? The Navy always has to chip in on these occasions. The three officers in this armed boat's crew—one of them was a lieutenant who joined the Merchant Service, called Hungry Hundred—and we thought we could not have a better fellow than our Hungry Hundred for this particular job; the other was a sub-lieutenant, and the third myself. Before I went into the boat I went and got my pocket instruments and dressings and two enormous bottles of lotion, which dangled about like John Gilpin. We got down into the boat and started pulling windward. You can well imagine what that was like in a raging gale. The Hungry Hundred lieutenant, like a sort of hero, called on the men to put their last ounce into it, for men's lives depended on it. Our four informers, who were with us, were more dead than alive. We found the ship pitch dark. As we got nearer I saw a face over the side duck down, and when we got still nearer there was not a living soul to be seen. The whole ship was as black as the inside of a cow. Just as we got alongside the Hungry Hundred lieutenant said: "Now, my boys, I'll go aboard first, and when I get on board and see what it's like I'll holloa out to you people in the boat to come up. If you hear me say 'One come,' then only one must come up; then if I say 'Two,' another must follow, and so on. If I simply say 'Come up,' then the whole job lot of you must come up." As we got alongside the ship he jumped on the ship's side and crawled his way up on board. As he jumped he shoved the boat off, and the men were doing their best to grip hold of the ship with boathooks. Then out of the darkness we heard an excited voice shout out, "Come up!" The first person to jump on the ship was myself, and by a piece of good luck I got a good hold and crawled on board, with the bottles flapping round me. Then I jumped several feet over the side and fell into the arms of a man. I was just about to land him one in the mouth when it turned out to be our friend, Hungry Hundred. I said, "What's up?" He said, 'I don't know, but it seemed d—— lonely up here!" All the rest followed. We went for'ard, where the mutineers had been barricaded in. I heard most awful groans coming from somewhere inside the bowels of the ship. I found a frightened-looking steward and went down the hatch with him into an awful-looking little cabin, lighted by means of a smoking lamp. Lying there were two officers absolutely as white as sheets, looking as though they were dead, and with a great pool of blood around them. One only knew they were not dead because of the groans that came from both of them. I simply found huge knife stabs in their thorax. I washed them out as best I could, and sealed them, and gave the men plenty of water, Then I went up to have a look at the mutineers. They were all tied up with handcuffs and barricaded in the focs'l. Then

Hungry Hundred said he was going back to the ship. I said, "I had better stay because these fellows may want the help of a doctor." It was a rotten night, and our informers told us that because of the cold the captain in a fit of gratitude gave the crew three bottles of whisky, and some of them got blind drunk and fought one another most of the time. The barricaded mutineers were banging at the barricade and saying that if they could get out they would swing for me. *Why*, goodness knows. That was the sort of night. Next day the boat came and took the fellows off to gaol, and we took the two officers into hospital, where they got perfectly all right.

In addition to that I have had all sorts of funny experiences in the Navy. I visited the Dowager Empress of China's bedroom once. I won't tell you about that.

On one occasion I had a chance to get the Albert Medal. I did not get it, but still I should very much have liked to have done so. On our way home, after leaving Bermuda, we came to one little island, shaped like a fish-hook, with corals all round, and inside the coral reef the water was smooth, and outside it was full of sharks. Before leaving Bermuda the Medical Officer there said: "I've got a few patients that you might take home. Certainly one of them is a lunatic, but do not worry about that." This man was brought on board, and he stood 6 feet 5 inches high, and looked as fine a specimen as one could wish to see. We had just got outside those reefs, and it was pitch dark, and when I was undressing to turn in, the steward said, "Our loonie has gone overboard!" Surely enough he had. He had crept out the ship through the scuttle. The officer on watch stopped the boat, dropped a lifebelt, and called for the lifeboat's crew. It was a fine piece of Naval seamanship, like everything else done in the Navy. In the excitement I ran and looked over the rails, knowing that if by any chance I could save this fellow I should win the Albert Medal, a thing which I particularly wanted. But I was not going to jump into water infested with sharks. A searchlight was thrown all over the place. Then all at once a voice from the coxswain of the lifeboat said, "We've got him, sir." The fellow had swum for the lifebelt and saved himself.

Another thing which might happen at any moment to any of you fellows, if you go to the East Coast of Africa, is that of game shooting. I had three ambitions—one to become a Fellow of the Royal Society—I never got that; another to get the V.C.—I never got that; the other to shoot a lion—I never got that; and I have had a d—— good try at the three. But shooting a lion is a thing which any one of you might get if you happened to be on an East African station. When I was at a station on that coast a man-eating lion came over one night, but I did not get a shot at him.

As a Naval surgeon you have intervals of hard work. You go to our Naval Hospitals, and if you have not been at Chatham or Portsmouth or Plymouth Hospital, I venture to say you would be surprised at what work is done in those Naval Hospitals. Every kind of work is done there, except, of course, diseases of women. You have your high-class surgery and medicine. Our patients there range from boyhood right up to old age, because we take in pensioners as well. They come in those various ways that you know happen in our profession. Probably in Guy's you will get four or five with some rare disease perhaps in a month, and then you do not see another similar case for 10 years. When I was in charge of the Bermuda Hospital, there was an enormous run for operations for stone in the ureter. They were really extraordinarily successful in their results.

After being out in China for the Boxer Rebellion I was sent to a hospital where I had charge of most of the operative surgery for a while. It was amazing the variety of cases that one got there. On active service you do get curious things. I had a lot of hernia to operate on in the Boxer show. I had never seen one before; still, they went off all right. Then there was quite a large number of operations for liver abscesses out there. I remember one case of a man who cured his own liver abscess by letting it burst into his lung and spitting it up. In those days I wrote literature on the subject. I happened to be talking to my old chief about a case and told him that I thought of publishing it. He said, "I don't think I would; those cases are very common!" I thought I had got hold of something novel to publish.

I had not excised an aneurysm up to then. In those days it was considered a great thing to excise an aneurysm. Now everyone of you do it every day. At the same hospital I operated on a very large popliteal aneurysm, and the patient was doing nicely. I kept him a long time in bed, as you know you ought to do. One morning I came into the hospital and the bed was empty. I said: "What has happened, has the fellow died? I thought he was going to do all right." The attendant told me: "At 6 o'clock this morning he got hold of a dinner fork and drove it into his trachea, and he has been moved down into the Insane Ward." He did that, but he got well all right. I mention that sort of thing to show you that there is a lot of plastic surgery to be done, and so you

should not run away with the idea that there is no surgery to be done in the Navy.

Besides surgery there is an enormous amount of preventive medicine. The great thing that our profession ought to do is to keep people well instead of bothering so much about curing them when ill. For that reason people are encouraged in the Service, especially in the Navy, to take their D.P.H., that is, to become a professor of hygiene. I did not know anything about hygiene, but a friend said to me, "Would you like to take it up?" and I said, "All right." You cannot very well get up and talk about a subject unless you get a hallmark in some way. So I thought I would take the D.P.H., and I set to work and took it.

Another operation which I have done is one that I thought might interest you. There was a case that I had of a man who had all the typical signs of thrombosis of the lateral sinus. I decided to cut down and do the usual operation, tying the lateral sinus and the jugular vein. I had tied the lateral sinus and was just cutting down on the jugular vein, exposing it where it was still thrombosed, when I was told, "If you do not drop it this chap will be dead!" I put a ligature on the jugular vein, which was thrombosed at that spot, and the patient got perfectly well. I published the case because it showed that the sepsis did not spread right throughout the whole thrombosis. The lower part of the thrombosis was not sufficiently infected to give trouble. I think that is an interesting case.

As a medical man on board ship you can give much of your leisure time to reading and study and writing. I have had to write books occasionally. You may, anyone of you, have to do that in the Navy, or you may have to give lectures before students at Guy's Hospital, and things of that sort, all of which you would have to prepare for during your spare time, which gives you opportunity of revising the work you have already gone through, and for reading, writing an d so on That is what a panel doctor never gets an opportunity of doing. I have been told that a panel doctor makes £1,000 before he is 30. I do not believe he does, as a rule, but if so, I think he jolly well deserves it, because a panel doctor's life is one of giving his patients headache mixtures, cough mixtures and other things. Is that the sort of life a Guy's man would like to have? It is rather degrading to our magnificent profession if we do not take a scientific and academic interest in it, irrespective of how much money one can make.

As representing the Admiralty, I was sent to the United States to a Congress held at the Johns Hopkins Hospital at Baltimore. That was an extraordinarily lucky thing for me. I wanted to do it at my own expense, but I was sent out at the expense of a grateful country. That might happen to any one of you if you were to join the Navy.

I was made a Professor of Hygiene. In the Navy we have got Professors of Hygiene, of Tropical Medicine, of Pathology, of Bacteriology, of Medicine, of Surgery. They are specialist jobs, all of which carry extra allowances in the way of pay.

Then along came the great War. I won't talk much about that. It was just for all the world like a military division. We landed in Gallipoli. I do not want to have it over again; I lost too many friends in the War to talk much about that.

I feel it would rather bore you to tell you much about the pay and promotion and all that sort of thing in the Navy, because you already have had an opportunity of getting the information. But if you are going to make up your mind and decide, you naturally want to have all the facts before you. If you look at your Notice Board you will see a notice about the pay in the Navy.

It was my privilege, as President of the War Section of the Royal Society of Medicine, to give the opening address last October. If you are really interested in the Navy and read that address—it sounds shocking of me to draw attention to something I have done—but that address will give you an opportunity of seeing what professional advantages you would have in the Service. You all of you, as sportsmen, naturally like to have plenty of sport. But at the same time you are keen doctors. What is so often levelled against a Naval career for a doctor is that there are no professional opportunities. That is terminologically an inexactitude, a real sanguinary one too. Do not believe it. Read that presidential address and believe that, because I assure you every word of that is true. If your Editor allows it to be published in your Magazine you will, if you read it, get some reliable and useful information showing what the Navy is like.

As I conclude I would like to mention the great advantages of a Naval life:—

(*a*) You are paid by the Government and have nothing to do with the sordid mercenary business of collecting fees.

(*b*) You mix with the most decent crowd of fellows you could wish to meet. Those of you who have played against people at football have seen the type of fellows in the Navy. The Naval officer really is a jolly good chap. For the right type of m dical man, I can imagine nothing more attractive than being thrown in amongst Naval officers. There is no swank about them—they are just clean,

healthy, athletic sort of fellows, keen on their job, keen on work, and keen on play, and ready to give everybody a chance.

(*c*) You have ample opportunity to work up for higher qualifications, better professional work than falls to the lot of most general practitioners, and plenty of scope for the fulfilment of ambitions to rise. In the Navy you have the fullest opportunity to take high qualifications, and if you take your English Fellowship, or your Edinburgh Fellowship, or your R.C.P., they are a great asset to you. To return to the mercenary side, your market value is thereby increased.

(*d*) Being a Naval officer you not only see the world, but you see it under the most advantageous conditions. You do not land as a sight-seeing tourist, but as a welcome guest at everybody's house. From the fact that you are wearing the King's uniform, in a moment you are welcome everywhere.

(*e*) You not only have better opportunities of high class professional work than the general practitioner, but you also have none of the monotony of his existence. You get spells of all sorts and conditions of life—hard times, good times, hard work, hard play, sport of every description and greater facilities for partaking in these than your civilian confrère can ever get.

(*f*) You have only one life to live, and I venture to say that the life of a Naval medical officer is as full of honour and achievement as most. I should not hesitate to have it all over again if I had the chance.

(*g*) One last important word, and that is that this life is only likely to be really attractive and successful to the right type of man. That type may be summed up as follows: He must be a good doctor, he must be a sportsman. When I say a *sportsman* he need not be a champion. The mediocre man is encouraged just as much as the champion. When I say a *sportsman* I also mean that indefinable something that you all know—a man who is ready to take a hand in things going on. Thirdly, he must be a good messmate. That is a still more difficult type. A good messmate is an essentially unselfish man, a fellow that plays for the team. He does not jump into the boat and say, "I'm in the boat," and let the others drown.

Thank you very much for giving me a hearing. I hope I have not bored you very much. At all events, you cannot go away without feeling that you do know something about what the Navy is like.

Royal Naval Medical Service.

THERE always have been—there are now and there always will be—a certain number of young medical men to whom life in the Royal Navy appeals more than does any other life of a medical man. The type referred to is the man who may have been brought up in Naval surroundings, he may have Naval relations or he may just love the sea. He may dislike certain aspects of a private practice with its monotony, its busy rush of more or less mechanical work, with no time to follow up his cases, no time to read, no time for special work. He may dislike the business of collecting his fees or the narrowness of the circle in which he has to move. Should he aspire to being a consultant on the staff of a large hospital, he may find he cannot afford to wait the long years which must elapse before he begins to make it pay.

To a man of this temperament a career as a Medical Officer in the Royal Navy offers very definite attractions. In these days his professional knowledge will most certainly not rust anywhere, but especially in the Naval Hospitals will he have opportunities of practising every branch of his profession except, of course, diseases of women. He can obtain one of the 60 paid specialist appointments. These include medicine, surgery, diseases of eyes, diseases of nose, ear and throat, radiology, anæsthetics, genito-urinary and venereal diseases, physical training, bacteriology, pathology and hygiene. He will be encouraged to work hard and play hard. He will see the world under ideal conditions, because wherever he goes he will be a welcome guest, as is always the case with those who are privileged to wear the King's uniform.

In any walk of life success and happiness depend primarily on two main conditions. You must like your fellow men and they must like you.

The right type of man for a Naval Medical Officer is a good doctor, keen on his work and keen on his play, unselfish and a gentleman.

If the doctor is of this type he is invariably everybody's friend. The Naval Officer and the Bluejacket are quick to recognise a Medical Officer who is keen on his work, thoughtful of his patients and one who strives after improving the health of the Navy. Such a Medical Officer finds life agreeable, as everyone is ready to befriend him, and nowhere can one find more delightful friends than in the Navy.

To encourage the better type of man to join the Navy, the Admiralty allow an ante-date of one

year to those Naval Surgeons who before entry held a resident appointment for one year at certain large hospitals.

To help men to take higher qualifications, opportunities are given, when the exigencies of the Service will permit, for Medical Officers to take post-graduate courses prior to sitting for these higher xaminations. A large number of Naval Medical Officers,since joining the Navy, have taken qualifications such a M.D., F.R.C.S., M.R.C.P., D.P.H., D.T.M., D.O.M.S., etc. It is recognised that this is good for the Navy and good for the Officer himself.

In our large Naval Hospitals the medical, surgical and specialist work is of a very high standard. The work is very exacting, and it is the aim of the Admiralty to arrange appointments as far as possible so that Medical Officers have an opportunity of alternating their work not only at home and abroad, but also ashore and afloat.

To give Naval Surgeons opportunities for professional work has always been a very definite policy of the Admiralty, and within the last year or so this matter has received still further attention.

The General and Specialist Courses have been increased so that, as far as possible, every officer shall have a course of instruction of not less than four months' duration every four years. The number of specialists allowed is now 60 instead of 46, and the specialist allowance is 5*s*. a day instead of 2*s*. 6*d*. a day. The establishment of Surgeon-Captains has been increased from 16 to 20.

The total number of Medical Officers in the Navy is 402, and every recent improvement has been made towards giving increased opportunities of advancement to the best men.

The advantages of a career with its period of strenuous clinical work, followed by a period of comparative leisure which can be devoted to study, etc., are laid stress on in the Presidential Address of the War Section of the Royal Society of Medicine, delivered on October 10th, 1927.

The work and professional opportunities of the Service Medical Officer are described, but the address is necessarily brief, and it is only by reading between the lines that one can really visualise the field for work which lies before the keen Naval doctor.

Not only has he this purely medical work to interest him. He has opportunities to emulate some of the great Naval Surgeons of the past such as Darwin, Huxley, Dyce Duckworth and many others who have contributed so much to science.

All work and no play makes Jack a dull boy. The Navy was probably the first to realise this and put its prevention into practice. Recreation is a vital part of the Navy, and there is no branch of athletics or field sports in which the Naval Officer does not have an opportunity of trying his hand. Not only is the champion encouraged, but also the less proficient.

In every Home port and on most foreign stations there are opportunities for football, cricket, tennis, golf, rowing, sailing, swimming and all other sports. On some foreign stations the Naval Officer can get shooting and riding in plenty, and so cheap that he can indulge in them on his pay alone. In civil life at home only a rich man could get such magnificent shooting as the Naval Officer does in some parts of the world.

The cost of living in the Navy is cheap, and an officer can live on his pay and enjoy life if he is not extravagant, especially if he does not embark in matrimony too early. A small amount of private means goes much further in the Navy than in civil life. The three vital points—Pay, Prospects and Promotion—of the Naval Medical Officer can be grasped by referring to the following clear and brief table :—

ROYAL NAVY

MEDICAL OFFICERS

Full Pay

		£	£	
Surgeon-Lieutenant (Short Service and Permanent Service)	from	452 to	499	per annum
Surgeon Lieutenant-Commander (promoted after 6 years' service)	„	600 „	636	„
Surgeon Commander (promoted after a further 6 years' service).....	„	772 „	976	„
Surgeon Captain (promoted by selection)	„	1,116 „	1,372	„
Surgeon Rear-Admiral (promoted by selection)		£1,800		
Medical Director-General (Surgeon Vice-Admiral)		£2,350		

Allowances when in charge of Hospitals and Sick Quarters—10*s*. and 5*s*. per diem.

60 Specialist Allowances of 5*s*. per diem.

Allowances to Senior Medical Officers in Flagships—5*s*. and 2*s*. 6*d*. per diem.

Accelerated promotion can be gained under certain conditions.

There are also—on certain occasions—Servants' Allowance, Provision Allowance and Lodging Allowance.

	PENSION	
	£	
Surgeon Vice-Admiral	1,123	per annum, on vacating office
Surgeon Rear-Admiral	950	„ at age of 60
Surgeon Captain	846	„ „ 55
Surgeon Commander	564	„ „ 50
Surgeon Lieutenant-Commander and Surgeon-Lieutenant	423	„ „ 45

BELOW AGE OF 45 OFFICERS RECEIVE GRATUITIES ON RETIREMENT ON THE FOLLOWING SCALE

	£
After 4 years' service	500
„ 8 „	1,000
„ 12 „	1,500
„ 18 „	2,250

Apply to MEDICAL DIRECTOR-GENERAL OF THE NAVY,
ADMIRALTY,
LONDON, S.W.1.

The extra allowances alluded to in this table are not to be looked upon as very exceptional. About a quarter of the Medical Officers of the Navy are drawing extra allowances.

Of recent years Medical Officers have been admitted into the Navy without entrance examination and for short service with the option of turning over to the permanent Service, but it is anticipated that it will not be long before the Admiralty will revert to the old-established system of entrance by competitive examination twice a year in batches of about 10 Officers.

Correspondence.

The Seat and Causation of Abdominal Pain.

DEAR SIR,—Since the publication of my paper under the above title in the GAZETTE of February 11th, my attention has been drawn to the experimental work upon this subject done by Dr. Poulton and Dr. Payne, of which I was then unaware. I think that now, not only from the point of interest, but in fairness to them, a short account of their work might be submitted to your columns.

First, as regards the question of gastric pain. I would recall to your notice the experiments of Marie Artmeyer and W. L. Palmer, where tracings of gastric activity were obtained by means of an air bag in the stomach. Dr. Poulton holds that these are quite unreliable owing to the fact that an air bag would merely rest upon the surface of the stomach contents—*i.e.*, in the cardia—and would not give a true representation of events taking place in the pyloric region.

I can only mention briefly the experimental methods used by Dr. Poulton and Dr. Payne. They used a bag containing water instead of air, and inside it put a lead weight, so that the position of the bag in the stomach or elsewhere could be accurately localised by means of the X-ray screen. Tracings were obtained with a manometer and revolving drum, special care being taken to ensure their accuracy. Numerous observations were carried out upon patients with various gastric disorders, including ulcers, and it was found that the pain was always associated with definite changes in muscular activity, not only in the stomach, but also sometimes in the duodenum and jejunum. There may be simultaneous movements in the œsophagus, causing heartburn.

It is evident from these experiments that all gastric pain is due to muscular activity in the alimentary canal, and is not, in the case of ulcer, the result of acid stimulation of nerve endings or of any local action in the region of the ulcer itself. Whether the presence of acid exerts any influence upon muscular contractions appears to be undecided. The fact that, in some cases of ulcer, the administration of hydrochloric acid is painful would seem to indicate that it may be capable of exerting some such influence.

Having dealt briefly with the stomach we may now pass on to a discussion of Dr. Poulton's views with regard to the mechanism of production of visceral pain. As a preliminary, it is necessary to mention some experimental details.

The result of blowing up an air bag rapidly in the œsophagus was to produce first a momentary rise of pressure due to mechanical stretching of the muscle. This was soon followed by a lowering

in pressure owing to muscular relaxation, so that the œsophagus did not continue to contract tightly upon the bag. The presence of the distended bag leads to the occurrence of peristalsis and the production of pain. It was found that the pain was only recorded during the period of relaxation following a contraction, provided the bag was not too tightly distended. When a peristaltic nerve passed over and compressed the bag the pain disappeared, only to return when the wave passed on. It would thus appear that the pain was the direct result of the bag stretching the œsophageal wall during relaxation, and that its disappearance was due to shortening of the muscular fibres during their contraction.

In order to obtain radiographic evidence an opaque bag was used. This consisted of two rubber balloons, one inside the other, the intervening space being filled with bismuth suspension. When the bag was fully distended it exerted considerable pressure upon the œsophageal wall. No peristaltic waves could pass it and pain was continuous. With less air, contractions successfully passed over the bag, compressing and elongating it in doing so, and simultaneously the pain vanished. The results of the previous experiments were thus confirmed visually.

In a patient with a "hypertonic" stomach it was shown that a momentary hunger pain coincided in time with the period of relaxation following a contraction. When, however, the pain was continuous or prolonged there was found to be an increase of the mean intragastric pressure associated with large contractions and relaxations.

The pressure exerted upon its contents by the muscular wall of a hollow viscus during relaxation is the diastolic pressure. The maximal pressure during contraction is the systolic pressure, while the difference between the two may be termed the pulse pressure. If a bag in the œsophagus is slowly being filled with air the diastolic pressure rises continuously. The systolic pressure rises at first and then remains more or less stationary at a level somewhere about the starting point. The pulse pressure thus diminishes as the experiment continues, until finally no peristaltic wave is capable of passing over the bag, but is "held up" on reaching it. When this occurs the pain becomes continuous, severe, and may be described as "burning." A rise of diastolic pressure is associated both with pain and an increase in number of contractions.

The theory propounded by Dr. Poulton and Dr. Payne is as follows: A foreign body whose circumference exceeds that of the hollow viscus containing it acts as a stretching force, and pain results from the consequent stretching and deformity of nerve endings in the muscular wall. There are two ways in which this may be overcome:—

(1) The circumference or "posture" of the organ may be increased by lengthening or rearrangement of the structures in its wall.

(2) The muscle may contract, as in the experiment with the opaque bag.

When peristalsis is held up by an obstruction there is severe and continuous pain, and one would expect a special strain to be exerted upon the nerve endings in the boundary zone between the muscle in systole above and that in diastole below—*i.e.*, at the upper limit of the obstruction. This results, according to Dr. Poulton, in deformity of the nerve endings at the boundary zone, with consequent production of pain.

Dr. Poulton does not agree with Dr. Hurst's tension theory as to the causation of hunger pain. He points out that for this to be true the walls of the stomach would have to be pressed tightly together during peristalsis, so as to prevent reflux of contained material, and the pylorus must remain closed. In one experiment it was found that during a pain the pylorus was apparently widely open.

Perhaps I could not finish better than by quoting a portion of the summary in a paper by Dr. Poulton and Dr. Payne.

"As the result of kymographic and radiographic examination of the normal œsophagus it is suggested that visceral pain results from a stretching force in the viscus and is caused by stretching and deformity of the pain endings in the wall. It is relieved by a peristaltic contraction that overcomes the stretch, or by postural adaptation, which increases the capacity of the viscus. It is made worse by a peristaltic contraction which is unable to overcome the stretch, and which is consequently held up in its course. The latter constitutes 'painful spasm.'

"Burning pain results from a continuous stretching and deformity of pain endings. When relieved periodically by successive peristaltic waves it becomes 'gripping' in character. Pain is especially apt to occur during the muscular relaxation that follows a peristaltic wave. Visceral pain experimentally produced if prolonged or severe is followed by cutaneous hyperæsthesia and other signs of referred pain, and may produce unpleasant results later."

My thanks are due to Dr. Poulton for the help which he has so kindly given me in the preparation of these notes.

Yours faithfully, H. N. HARLEY.

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1. W. W. Payne and E. P. Poulton, *Quart. Journ. Med.*, 1923, xvii, 53.
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The Council of the R.C.S.E.

DEAR SIR,—Notice has been given that an election of four Fellows into the Council will take place on July 5th.

March 19th will be the last day for nomination of candidates, and voting papers will be sent to every Fellow on April 3rd. At a meeting of the Fellows of the College working at Guy's it was unanimously decided to ask Mr. Steward to stand for re-election.

I earnestly hope that all the Fellows of Guy's will give him their vote and will obtain the support of other Fellows for him.

Yours faithfully,

E. C. HUGHES.

17, Wimpole Street, W.1.

March 6th, 1928.

The United Hospitals' Club.

ON February 16th, 1928, this ancient Club celebrated its Centenary. Probably few St. Thomas's or Guy's men could give offhand any account of it, and yet it has had a great influence in first promoting and then perpetuating the brotherly feeling that has always existed between the two Hospitals. The following therefore may not be without interest.

In January, 1725, a fortnight after Guy's death, his Hospital received its first patient, and it, and St. Thomas's—separated only by the width of St. Thomas's Street—carried on their respective duties in perfect harmony, the students of the two Hospitals interchanging in the prosecution of their studies.

This condition of things continued for 40 years, when apparently some differences of academic character seem to have arisen, for in 1768 the Governor's of Guy's passed the resolution " that the barrier between the two Hospitals be now removed," and then it goes on to say that the students of both Hospitals were free to attend the practice in either of them. Indeed, this was necessary, seeing that at that period surgery was taught at St. Thomas's and medicine and the allied sciences at Guy's. It was at this date, and in direct consequence of this resolution—the first *official* pronouncement of their union—that the term " United Hospitals " came into use, in addition to the previously recognised designation of " Boro' Hospitals."

Now, in 1825, owing to a disagreement between the Governors of St. Thomas's and Sir Astley Cooper, the Lecturer on Surgery at St. Thomas's, Mr. South was appointed in his stead, and Mr. Harrison, the Guy's Treasurer, then determined to make the School at Guy's quite independent, and this he accomplished the following year.

But even now the separation of the Schools was not complete, as an interchange in the studies of the students still continued, though apparently restricted, but the year 1836 found the separation an accomplished fact. For in that year, in consequence of certain Guy's men failing to produce their tickets or passes, when desiring to witness an operation at St. Thomas's, were refused admission by the porter, whereupon a riot or " rag " took place, which the police of the time had to help to quell, and from this time all interchange in instruction in the two Schools ceased.

It was the custom, certainly as late as 1822, for the St. Thomas's and Guy's men to dine together, though this seems to have ceased after the opening of the completed School at Guy's in 1826, and in 1827 the Guy's men inaugurated a dinner of their own, to be held biennially—the present Biennial Festival Dinner.

It now occurred to two practitioners—or, as then termed, apothecaries—educated at the "Boro' Hospitals," and practising in South London, Sim Smith and Tiffin Iliff, that these late events imperilled the friendly relations between their respective Hospitals. They therefore dined with 30 others educated at the two Hospitals—of whom only two were Staff members—at the London Coffee House, on February 14th, 1828, and there and then instituted the United Hospitals' Club, so that at the dinner table any breach between the two Schools might be healed and their future friendship secured and perpetuated.

To this end they elected eight of the Staff from each Hospital and nine " Apothecaries," to form the Club, drew up a rigid code of rules—which hold to this day—and agreed to dine together four times a year.

To widen its influence members of the profession were to be invited as guests, and, as a matter of fact, there is hardly a notable member of the profession at home or from abroad who has not been the guest of the Club at least once in the last 100 years.

For this period has the Club carried on its happy social duties, and at the Centenary Dinner it entertained over 50 notable guests. On this occasion also it broke some of its most stringent rules, for besides having two Chairmen—Sir George Makins representing St. Thomas's, and Mr. Golding-Bird, Guy's—it invited two non-professional guests, the

Hon. Sir Arthur Stanley, Treasurer of St. Thomas's, and Mr. Whitbread, Treasurer of Guy's, thus emphasising in a practical way, and in the persons of the two Chairmen and of its two non-professional guests, the kindly feeling existing between the two Hospitals.

The Club remembers with pride that it owes its origin to the "Apothecaries," as general practitioners, in whose hands have always rested the highest interests of the profession, and who have never failed as a body, or individually, to express an opinion or to act, as in this case, when it would tend to the public advantage.

It is hoped that this short account of the Club may induce Guy's men to apply for membership, so that succeeding generations may carry on its traditions and perpetuate the laudable object for which it was founded.

Vacancies are not frequent and the ballot is long in coming round for any one applicant; we all feel it to be an honour to be elected into its body. The Club's present secretary is the well-known St. Thomas's practitioner, of Putney, though now retired from work, but keen as ever over the Club, and living at Warren Gate, Crowbrough, Sussex. C.H.G.-B.

Reviews.

Hymen; or the Future of Marriage. By NORMAN HAVRE. 1927. Pp. 96. Published by Messrs. Kegan Paul. *Price* 2*s.* 6*d.*

THE shocking qualities of this book should ensure for it an extensive sale. For the unhappiness of the majority of marriages today the author prophesies remedies consisting in a drastic loosening of the code which at present regulates human sex relationships. The most important consequence of the changes predicted is that the family will disappear. "As for the children," writes Dr. Havre, "they will be supported by the State from funds provided by the taxation of all citizens, male and female, whether married or unmarried, and whether they themselves have children or not." The children will thus be conveniently disposed of.

Some Famous Medical Trials. By LEONARD A. PARRY, M.D., F.R.C.S. 1st Edition. Published by Messrs. J. & A. Churchill. *Price* 10*s.* 6*d.*

THIS book, written by an old Guy's man, contains much which should be of interest to all medical men. It describes many cases of major crimes committed by members of the profession, as well as others in which they were concerned. Told in a clear and interesting manner, the cases reveal the stupidity of methods of the criminal doctor. For although armed with a variety of poisons which leave no or very little trace, he must needs choose the common poisons of the lay murderer. This is well shown in the case of Dr. Cross, who, although a man of 62 years of age, a successful Army surgeon, and having six children, poisoned his wife with strychnine, following an infatuation for their governess, a girl of 21 years of age. His stupidity was further emphasised by the way in which he himself signed the death certificate, had the interment at 6 a.m. two days after death, and married the governess in London two weeks later.

The trial of Burke and Hare in Edinburgh was chiefly responsible for the Anatomy Act of 1832. Before that time subjects were obtained by the so-called Resurrection Men, who obtained bodies for dissection by desecrating graveyards. Burke and Hare had, however, even more vicious methods. These men used to murder their victims, one holding the victim down while the other produced death by suffocation. Then, when the bodies were hardly cold, they were sold to the anatomical school for a fair price, over £5 being obtained for a good subject.

The recent case of the prosecution of Dr. Hadwen is recounted at some length. This case was striking in that upon it depended the important principle that a doctor is allowed to hold his own peculiar views and carry out his treatment according to those views.

Throughout its length there is much of interest in this book, much which will repay the few hours spent in reading it.

Advanced Methods of Massage and Medical Gymnastics. By IDA C. SHIRES and DOROTHY WOOD, M.R.C.S., L.R.C.P. Published by the Scientific Press (Faber & Gwyer). *Price* 5*s.*

THIS is the first edition of a work written, as the Preface states, "to help the qualified masseuse and medical student in the application and knowledge of the above subject." While falling very short on the whole owing to its brevity, the chapter on Abdominal Massage and The Treatment of Infantile Paralysis cover in a comprehensive manner the fundamental principles of treatment. The interesting examples of cases treated for undeveloped breasts and depressed

nipples would have been more convincing had they been in multipara who had failed to feed previous infants rather than in primipara. The chapter on Pulley and Sling Exercises, by Mrs. Guthrie-Smith, M.B.E., should stimulate fresh ideas, and we are glad to welcome her system in print. The illustrations and diagrams are clear and the print is good. The book can safely be recommended and should encourage the desire for further knowledge.

Who's Who in the Nursing World. Published by the H. Edgar Smithers Publishing Co., W.C.1. *Price 5s. net.*

IN addition to the many interesting details concerning personalities in the nursing profession, *Who's Who in the Nursing World* contains a great amount of valuable information regarding Nursing Organisations, the Nursing Services, Institutions, Associations, Clubs, Journals, Exhibitions and Training Schools for Nurses, together with illustrations of badges worn by members of the various branches of the profession.

A book of this sort is badly needed, and we have, no doubt that this little volume will rapidly increase in size in the immediate future and become tan indispensable work of reference to public bodies training schools and everyone who is interested in the increasingly important nursing profession.

Medicine and the Man. By MILLAIS CULPIN, M.D., F.R.C.S. Pp. 66. Published by Messrs. Kegan Paul. *Price 2s. 6d.*

IN modern medicine drastic modifications of current terminology should not be advocated with levity. He who proposes them should do so only if there are indisputable advantages arising from them and if there is a fair chance of getting them accepted. In the absence of these two conditions, such proposals defeat their own ends by merely adding to the already existing verbal confusion.

But the least that can be expected of a writer who suggests a version of the existing usages of medical terms, is that he himself, in the course of a single work, should adhere to the terms which he proposes. This should not be difficult to do in a book of 60 pages, but the task seems to be too great for Dr. Millais Culpin.

This author proposes to " use the word neurosis only when we can specify the physiological function at fault. *Neurosis, then*—the author italicises this sentence ; it is, in fact, the only one italicised in the book—*should indicate a disturbance of the intrinsic function of nerve tissue,* and the word should be avoided when we have to deal with the behaviour of the individual, *even when that behaviour is shown—as behaviour must always be shown—by way of physiological mechanisms.*" The last half of this sentence has been italicised by us in order to emphasise its singular ineptitude. The author does not make it clear what he means by an " intrinsic function " of nerve tissue (beyond the not very helpful remark on another page that sweating and palpitations are disturbances of such an intrinsic function) ; neither are we enlightened by any expression of the phrase " physiological mechanisms." But Dr. Culpin *does* make it clear that he proposes to refrain from calling by the term " neurosis " any manifestation of *behaviour* however aberrant. For such a manifestation is proposed instead the term " minor psychosis."

The chapter following the one in which the above quotation occurs is entitled " What is Behind the Neurosis ? "—(not behind the " minor psychosis," please note). The answer, of course, is that unconscious motives are behind the neurosis. From this position of vantage, unconscious motives produce such disturbances as shell shock, disordered action of the heart, anxiety states and others. But clearly these are disorders of *behaviour.* Thus, unconscious motives are " behind " both neuroses and minor psychoses. So much is clear. What, then, is the relation of the neurosis to the minor psychosis ?

This relation is expounded in the following sentence : " A neurosis is diagnosed by the recognition of associated symptoms of mental disturbance, *that is by the co-existence of a minor psychosis* " (italics ours). That is to say, you diagnose the disturbance of the intrinsic function of nerve tissue, the neurosis, by finding co existent with it the totally distinct phenomenon of an anomaly of behaviour—the minor psychosis. This is rather like saying that you diagnose, for instance, a mysterious entity, scarlet fever, a disturbance of intrinsic body tissues, by finding coexistent with it a certain kind of rash, lingual appearance, etc., which have to be clearly distinguished from the entity scarlet fever, which stand in the same relation to it—in fact, as do Appearances to Reality.

This is a poor representation of a large class of semi-popular books that have been springing up lately on all sides, like mushrooms, as a delayed legacy of the war and of psycho-analytic theory, whose tedious theme—the pathogenic possibilities of unconscious motives—may be epitomised in the aphorism, " Treat the patient and not the disease."

The reviewer has had some difficulty in deciding between whether Dr. Culpin did not understand

his own definitions or whether he had fallen under the influence of Mr. F. H. Bradley. On the whole, the first has seemed the likelier hypothesis.

Bacteriology and Surgery of Chronic Arthritis and Rheumatism By H. WARREN CROWE. Published by the Oxford Medical Publications (Humphrey Milford). *Price* 30*s. net.*

"ALL persons are carriers of streptococci in their alimentary tract and upper air passages and of staphylococci in the skin and other places. Of streptococci there are very great numbers of distinct varieties, whereas staphyloccoci are morphologically less varied and serologically closely related to each other. Osteo-arthritis and non-articular rheumatism are essentially caused by streptococci; rheumatoid arthritis by staphylococci. The varying manifestations of chronic rheumatism depend on, and perhaps in the future may be correlated with, the large number of different streptococci. Rheumatoid arthritis is a much clearer clinical entity because of the greater uniformity of staphylococci."

This Dr. Warren Crowe states is his hypothesis.

It is necessary to read the first chapter of this book on the classification of chronic arthritis to prevent confusion as to these claims. The classification is good.

The association of osteo-arthritis and streptococci is accepted. But regarding the rheumatoid-arthritis, in the beginning Dr. Warren Crowe says: "Thus the reader will see that there is a great deal of evidence accumulated from one direction or another associating staphylococci with rheumatoid arthritis and with some forms of neuritis."

This "great deal" of evidence consists of the following items:—

(1) Collins reported, among other cases, several in which staphylococci were found, and upon treatment with vaccines showed considerable improvement.

(2) Watson Williams laid stress on the bacteriology of the nose—in which he found white and yellow staphylococci—as a causal factor.

(3) Macalister also assigns great importance to the nasal passages as a definite potential form of infection.

(4) One case of "staphylococcal septicæmia" with inflammation that appeared to involve the tissues surrounding the joints rather than the joints themselves.

(5) Mutch (1915) recorded a series of cases in which colectomy was done. He punctured the upper bowel and made cultures. In all the rheumatoid cases a yellow staphylococcus was grown; in all the non-arthritis cases no staphylococci were found.

This latter item and (6) four cases of rheumatoid arthritis, in which Dr. Warren Crowe found a staphylococcus albus and produced very definite reactions with vaccines, are suggestive. This staphylococcus albus has certain definite cultural peculiarities, and is designated the micrococcus deformans. Except for the two latter observations, there does not appear to be much positive evidence in this list.

The following conclusion was drawn: "It was already impossible to dissociate rheumatoid arthritis from the micrococcus deformans."

It is fortunate that we have what Dr. Warren Crowe calls "congenital sceptics" to hesitate at such hasty conclusions and say, "So hot, my little sir?"

This conclusion next becomes inverted, the hypothesis becomes more restricted and from now onwards rheumatoid arthritis has as its sole causal organism the micrococcus deformans.

Having acquired a perhaps exaggerated view of Dr. Warren Crowe's starting point and realised how he jeopardises his own evidence, the extensive work that he has done on this subject can be inspected. The next step is to investigate and group the staphylococci by cultural and fermentation reactions—an original and useful contribution. It is found that of the main groups the micrococcus deformans forms one, and that two other groups are of importance in this investigation. The agglutinations, with and without the aid of absorption, of these groups are tested against homologous, rheumatoid and various other sera. The results certainly suggest that there is some tendency for the micrococcus deformans to be agglutinated by a higher titre of rheumatoid sera than by the controls. This is further supported by complement deviation tests with the same organisms.

The next investigation charts the incidence of these staphylococci. Again the figures show a larger number of micrococcus deformans isolated from various situations in cases of rheumatoid arthritis than in controls. But this organism is found in non-arthritics, and the figures are not so grossly divergent nor the cases so numerous that the "congenital sceptic" could not be forgiven for remaining hesitant in his conclusions.

The results with vaccine treatment are good, and a point of great importance is the claim that the majority of cases get a marked specific reaction after comparatively minute doses of vaccine—less than 1,000,000 organisms.

Thus there is a certain amount of positive evidence to be gleamed from an industrious and elaborate piece of work, and to this must be added: "Further, as the picture of the real rheumatoid arthritis became clearer in my mind, so did the

connection between the disease and the micrococcus deformans become closer. Such an impression is, of course, a personal thing, but as the series of cases is a long one, my hypothesis will be strengthened thereby in the mind of an unprejudiced reader." This firm union is not unexpected when we remember the binding vows made at the first chance acquaintance.

Dr. Warren Crowe further ventures " to express the hope that, even to the mind of the congenital sceptic, a case has been made out for—at least, some further research."

An excellent conclusion, both for the congenital sceptic and Dr. Warren Crowe, who should have so restricted his at present rather extravagant claims, and thereby enhanced the value of his work.

It should be constantly remembered that the " unprejudiced reader " may have read and seen data that are more convincing than Dr. Warren Crowe's treatise, pointing to other possible causes of rheumatoid arthritis.

The book is interesting and challenging. There are resumès of most of the recent views on chronic arthritis, especially an excellent chapter devoted to Dr. Weston Price's large work on dental infection. A chapter on surgical treatment, written by Mr. Herbert Franklin, is included, and at the end are many admirable plates showing photos of various streptococcal colonies on Crowes media.

Some Late News Items.

WE understand, from reliable sources, that the offensive on the trees bordering the west side of Great Maze Pond is to be followed up by a great push in St. Thomas's Street. Already the lights of the enemy forces may be seen glimmering in the dark and showing up the fortifications erected. At any moment we may expect to hear the hostile drills grinding at our very gates and to smell in the air the noxious gases liberated by the machination of these drills from the stricken gas pipes which they meet in their devastating course. In fact, the workmen are with us again.

Beside this hostility at the gates, revolutionary changes are occurring in our very midst. Insidious forces are going to work in that veritable haven of convention, that regulation-bound institution, the Nurses' Home. The emancipation of womanhood, the insidious force in question, is even getting a hold here. Astounding news is brought to us. We are told that a Smoking Room, long a subject of discussion and recently a subject of derision, has at last materialised. It is, in fact, an established occurrence. Nurses may now smoke in the Nurses' Home. Furthermore, we hear that the internal decoration of this Hall of Nicotine—one hardly dare call it a Smoking Room—is lavish beyond words, gorgeous beyond the dreams of avarice and indicating the expenditure of untold wealth. It has, indeed, been whispered that a new red rug is to be placed on the couch—leather, hard, upright.

But this outpouring of luxury and intake of fumes are not the only signs of soul-striring changes in our Nurses. Apparently a beauty parlour is even now in the course of construction. A beauty expert, straight from Paris, is to attend at specified times and attend to the coiffure and cosmetics of our Nurses. He is to be the very first thing in beauty specialists, and it is authoritatively stated that no face has yet beaten him. He can lift anything.

Sport.

Association.

Semi-Final of University Cup, Guy's *v.* Battersea Polytechnic.

ON Saturday, February 25th, Guy's met Battersea Polytechnic in the semi-final of the London University Cup, and after a very fast and exciting game we qualified to enter the " Final " by a 2–0 victory. This will perhaps serve as a certain amount of compensation to us for our defeat at the hands of U.C.H. in the Hospital Cup, a match, by the way, we were exceedingly unlucky to lose.

The ground at Merton was very hard—a condition to which we are wholly unused—but Guy's quickly settled down to play good football. For the first part of the game the play was fairly even, but soon Guy's did most of the attacking and play was confined to our opponent's half. From one of these breakaways Cantor gave a nice pass to Ashling, who took the ball on a few paces and then scored with an excellent shot, which the goalkeeper managed to get to, but could not hold.

This reverse spurred on the "Poly" to a more determined attack on our goal. Our defence, however, played very well, and on many occasions Evans saved the situation by timing his running out of goal very accurately. Our opponents met with no success, and once again our forwards broke away. The ball was carried down the field by a good passing movement, when Fitzgerald, from a rather difficult angle, registered our second goal with a good cross shot. Shortly after this the whistle for half-time blew, and we thus changed ends with a 2–0 lead.

On resuming play after the interval the game proceeded much on the same lines as in the previous half. Our forwards, perhaps, did not combine quite so well, but the defence withstood all the attacks of the "Poly" forwards. Early in this half Blaikley hurt his ankle. This necessitated Small at inside left going to left half, and this rather disarranged our forward line.

The Polytechnic vainly tried to reduce their deficit, but they could not penetrate our defence, and once more Evans in goal was conspicuous by his running out. We, in our turn, did our fair share of attacking, and on several occasions gave the opposing goalkeeper good cause for anxiety. No further score was added; the end of the game drew near and we emerged from a very fast and evenly contested struggle as victors by 2–0.

Our team in this game was a vastly improved one, and if only we can keep this up we should stand a reasonably good chance in the final. Special mention must be given to the passing of the forwards, to Gray's very energetic display at right half, and to Evans, our goalkeeper.

Guy's Team—W. D. P. Evans; Brummitt, D. E. C. Robertson; J. Gray, D. B. Smallshaw, J. B. Blaikley; J. P. Fitzgerald, A. M. Cantor, L. Ashling, J. W. Small, L. K. Robson.

Hockey.

Guy's *v.* Staff College.

THIS match was played at Camberley under conditions which were as near ideal as possible, the ground being like a billiard table. Owing to the proximity of the Dental Final Examinations, injuries and missed trains we were without Howitt, Curtis, Conybeare, Sykes, Peatfield and Carrell.

Guy's won the toss and played up hill. Within three minutes of the start the Staff College ran through our defence and scored. This manœuvre was repeated twice more with great rapidity. These goals were almost entirely due to the fact that the wing halves would not mark their own men.

We soon rallied and were rewarded by a good goal, scored by Archer. The Staff College, not to be outdone, scored twice in quick succession. Half time then arrived finding us 4 goals in arrears and very much out of breath.

The second half was a complete change, and we had very much more of the play and were unlucky in not scoring more goals than we did. As it was Archer scored from a centre which should have come from the left wing, but in this particular case came from someone very much out of position.

During this half Staff College added one more goal and then Archer added another from a rebound from their goalkeeper.

Thus, we lost our first match since Christmas by the margin of 6–3.

There is little doubt that we should have beaten them with a full side. As it was Schofield in goal gave a very fine display indeed and saved us from a much heavier defeat. In the second half the backs settled down to play a very sound game; the halves were all unsteady and erratic and often let their man through because of insufficient marking. The forwards, with the exception of Archer, were poor—some were not even energetic.

Staff College were probably right and it was really the five flights of stairs and their hospitable entertainment that caused the trouble.

Guy's Team—J. B. Schofield; F. R. Hayward, T. E. Mitchell; S. W. Wright, F. E. Camps (capt.), P. G. Norris; J. T. Edmonds, J. E. Rowlands, C. A. W. Archer, H. O. Lyne, G. S. Stead.

Sailing Club.

THE Annual General Meeting was held on February 27th, Dr. French taking the Chair. The Officers for 1928 were elected as follows:

Commodore—
Herbert French, C.B.E., M.D., F.R.C.P.

Vice-Commodores—
C. P. Symonds, M.D.
A. McNair, Ch.B.
W. H. Ogilvie, F.R.C.S.
F. N. Doubleday, L.D.S.

Captain—
L. Parker Tupling, L.D.S., L.R.C.P., M.R.C.S.

Hon. Secretary and Treasurer—
R. E. R. Palmer.
Committee—
E. C. Huddy.
W. H. Miller.
G. N. Wood.
W. H. Bradbeer.
A. G. Johnson.
G. B. Palmer.

The large number of new members this year is pleasing, and shows that Guy's men are beginning to realise how pleasant are week-ends spent in dinghy cruising on the Crouch.

Hospital Information, etc.

Pass List.

L.D.S.

FIRST PROFESSIONAL EXAMINATION

February, 1928

PART I—*Dental Mechanics*

F. A. Chandler
J. Barnes
J. A. C. Hunter
L. Mortimer
R. E. R. Palmer
M. McDowall
J. R. Cohen
H. S. Johnson
K. C. Moss
F. A. Sicklemore

PART II—*Dental Metallurgy*

F. A. Chandler
C. G. W. Brown
R. W. D. Brownlie
E. B. Carpenter
F. J. Goldsworthy
R. N. Hines
J. W. Mansie
T. D. Popplewell
C. W. Shuttleworth
R. A. Sykes
K. W. Whitworth
S. Williams
T. D. Wren
M. McDowall
S. C. S. Brown
J. Bunyan
H. D. Cockram
C. W. Harrison
H. G. Jokelson
L. R. Millership
W. K. Scantlebury
J. G. Spiller
S. M. Whitteridge
I. D. Williams
G. R. Wootton

PART III (*a*)
Anatomy and Physiology

H. S. Johnson
K. C. Moss
F. A Sicklemore
R. A. Sykes
A. J. D. Gibbings
J. E. Ilott
C. P. B. Reed
A. E. Williamson
L. Mortimer
R. E. R. Palmer
E. B. Carpenter
W. H. Dodd
W. Hughes
R. H. G. Neave
N. G. Straschun

PART III (*b*)
Dental Anatomy Physiology

W. J. M. Allan
D. B. Berg
I. C. Fisher
A. M. Garman
O. M. H. Jones
G. E. King-Turner
J. F. Lockwood
C. D. Malone
G. B. Palmer
W. H. H. R. Smithurst
T. L. Vaisey
D. S. H. Williams
C. J. Woodcock
L. Ashling
H. M. Crombie
W. F. H. Frost
R. L. Heathcote
F. F. Kennedy
E. S. T. Lee
J. C. McNeill
R. O. Murray
J. C. Read
A. G. Taylor
R J. Wheatley
W. R. J. Wood

FINAL EXAMINATION

February, 1928

PART I

B. Cohen
E. M. Douglas
M. L. Cooper
W. Foster
C. N. Howitt
W. J. Watson
P. W. Binsted
J. G. T. Edmonds
G. E. Hansen
R. Symmons
F. R. Kearsley
C. J. C. Siggers
F. B. W. Sexton
S. G. Caston
S. P. Ellis
C. B. Williamson
J. T. F. Tingle

PART II

B. Cohen
W. J. McB. Allan
L. E. James
L. R. Rowlands
C. L. Stevens
C. J. C. Siggers
A. H. Curtis
V. R. Preen
M. A. Rushton
H. C. J. Van den Broucque

SOCIETY OF APOTHECARIES OF LONDON

February, 1928

Surgery

W. A. A. Collington

Change of Address.

Laurence Harley, L.D.S., c/o Lloyd's Bank, 6, Pall Mall, S.W.1.

E. H. Hudson, Tunbridge Wells General Hospital, Tunbridge Wells, Kent.

R. R. Macintosh, 9a, Upper Brook Street, W. 'Phone: Mayfair 3190.

W. E. Robinson, 20, Grosvenor Street, W.1. 'Phone: Mayfair 3618.

W. H. Ogilvie, M.Ch., 105, Harley Street, W.1. 'Phone: Padd. 4805.

E. R. Webb, Sanatorium, B.N.R. Ranchi, Bihar and Orissa, India.

Papers by Guy's Men.

M. E. M. Jago, M.B., B.S. Strangulated Inguinal Hernia in an Infant, *Lancet*, 1928, i, 444.

Peter G. McEvedy, F.R.C.S. Failures Following the Operative Treatment of Gall Stones, *Clin. Jour.*, lvii, 1928, 73.

Appointment.

C. Worster-Drought, M.D., Hon. Consulting Neurologist to Bethlem Royal Hospital.

EDS. { O. P.
E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLII. *March 24th, 1928.* *Number 1035*

PASSIM

THE late Dr. Fison possessed in a high degree the remarkable gift of interesting others in those indefinite subjects on the borderline between science and philosophy which he himself found so fascinating. We well remember his evening lectures where, in a packed theatre, he explained away the mysteries of the higher astronomy in the same artless manner and with the same telling analogies that met the humbler problems of the conjoint physics. Almost everyone came to these lectures—Staff, wards, school, sometimes members of the Employees' Association; few left them without a sense of gratitude to the man who could so easily and so pleasantly widen their mental outlook, and who was prepared to devote so much of his spare time to that end. It followed, naturally, that any memorial should take the form of an annual lecture devoted to the kind of subject which especially interested Dr. Fison, and which he found drew such an appreciative audience from among those who worked at Guy's. This essential idea was admirably carried out in the third annual address, delivered on Tuesday, March 13th, by Sir William Bragg, K.B.E., F.R.S., who took as his subject "The Structure of an Organic Crystal." The address comprised a wonderfully clear account of the new research in molecular construction, of which Sir William is such a distinguished pioneer, together with a valuable estimate of the possible bearing of the emergent principles on the science of medicine. In a manner more than reminiscent of Dr. Fison himself, we were led along the edge of our own abysmal ignorance of the higher physics, while thrilling views of the new world of crystalline structure that appears with the use of the X-rays were opened out before us, a veritable panorama of the ultra microscopic. Among other things our respect for the common or garden moth ball was considerably enhanced by the model of the naphthalene molecule, an apparent vagary of vorticism, which Sir William laid bare to its very bones—or rather electrons. Paraffin, it appeared, had also engaged his attention, especially in relation to the structural basis of its lubricant properties, which are not unknown or unused in this home of healing. We wonder if he knew the annual tonnage of this invaluable medicament revealed in the Dispensary reports? The sugars, confessed Sir William, had completely baffled him. We cannot help feeling they will be unable much longer to withhold their secrets from his searching investigation.

Sir William Pope, K.B.E., F.R.S., as Chairman, graciously accepted on behalf of chemistry the valuable products of physical research, and promised the physicists a Roland for their Oliver. The Superintendent, in proposing a vote of thanks, recalled the Chairman's student days in Germany, his remarks revealing that such a proposal could be almost as devastating in its effects as of X-rays on a crystal.

THE retirement of Dr. Beddard from the Visiting Staff leaves a vacancy among the Assistant Physicians. We understand that an announcement concerning the filling of this vacancy will shortly be made. Rumours as to the identity of the new Assistant Physician are circulating widely round the Hospital, but we would advise our readers to take some of these with the proverbial pinch of salt. In particular, we can positively deny the

rumour that Mayhew has been elected to fill the vacancy.

On Friday, March 16th, the Rugger Club achieved a great triumph and some compensation for the defeat in the Senior Inter-Hospital Cup by winning the Junior Cup for the first time for three years. The " A " team gained this distinction by an overwhelming victory against the London Hospital by 46 points to nil. We hope to be able to publish an account of this match shortly.

We view with considerable alarm the insidious influence that the world of the cinematograph is making upon our professional life here. Recently there was posted in the Colonnade a small notice so reminiscent in style of the most lurid of " movie " sub-titles that we are unable to repress the terrifying visions of what the Colonnade might look like in a few year's time if this influence is allowed to spread. We can imagine the glaring sky signs at the entrance to the Colonnade blazing forth the appeal to " Come and See the Show. Palpate the Abdomen. Early Indiscretion Leads to Early Demise ! " Or " Nightly at 8.30. Come and Hear the Succussion Splash." Or, " See the Diabetic Drama. Featuring Insulin." There is no end to the dreadful possibilities.

The Acute Abdomen.

A Clinical Lecture by R. P. Rowlands, Esq., M.S., F.R.C.S.

GENTLEMEN,—The early diagnosis and successful treatment of acute diseases of the abdomen demand great knowledge, care, judgment and skill on the part of the general practitioner and the surgeon. On the one hand, delay in diagnosis and waste of time in treatment too frequently end in disaster and death, but, on the other hand, incomplete examinations and hurried decisions may lead to unnecessary and vexatious operations. We have laboriously to train ourselves how to get correct histories, to make accurate and complete observations, to sift evidence and to arrive at early but sound decisions. Delay is the chief cause of death, and for this the ignorance and prejudice of the public is largely responsible. We ought to do everything possible to dispel this ignorance concerning the serious need of calling in the doctor immediately for abdominal pain and vomiting, and to overcome the prejudice against operations. This prejudice is naturally increased by the high mortality of operations which are undertaken too late. The large majority of acute cases admitted into the surgical wards are suffering from acute appendicitis, which kills about 3,000 persons every year* in England and Wales. Nearly all these deaths are preventable by early operation—*i.e.*, within 12 or 24 hours of the onset of the attack ; the earlier the safer. Moreover, many bad attacks are preceded by ample warning in the form of minor attacks of pain and vomiting, with tenderness over the appendix. The appendix should be removed at this stage as a part of preventive surgery. Acute intestinal obstruction; including strangulated hernia, is the next most important variety of the acute abdomen ; moreover, it carries a very high mortality of about 35 per cent., due almost entirely to delay before operation. Surely the hernia, and many of the obstructions, should be recognised and operated upon, with far less risk, before this acute disaster develops. Perforated peptic ulcers form another important and fatal group. In nearly every case there has been abundant evidence of the existence of a chronic ulcer, which should be adequately treated, either medically or surgically, in order to avoid the grave risks of perforation and hæmorrhage. I want you to realise that most of the acute abdomens coming to the surgeon must be regarded as preventable catastrophes ; the underlying disease is chronic and gives warning of the impending disaster. Even the disasters can be remedied in most cases if quickly recognised and immediately treated by operation. Here I am chiefly interested in the methods of diagnosis. It will be convenient to discuss these under three headings :—

(*a*) The History ;
(*b*) The Examination ;
(*c*) The Judgment.

(*a*) THE HISTORY

An accurate history is of the greatest importance, for it generally gives the clue to the diagnosis and indicates the most profitable examinations. Whenever possible it is best to get the history from the patient himself, because he usually knows it better than anyone else, and inaccuracies creep in during repetition. It is wise to listen patiently while the patient tells his own story, sometimes perhaps at great length, but the last thing he says may be the clue to the case. When he has finished it is necessary to cross-examine him kindly but

**Operations of Surgery*, Vol. ii, p. 384.

thoroughly, so that the value and accuracy of his statements may be estimated. Others may be able to contribute towards a complete history, and these, especially near relations, should be given an opportunity of telling what they know. The family history is rarely of great importance here, but the history of recent illnesses, and especially of similar attacks, is of great value. For instance, with appendicitis and gall stones there is frequently a history of previous attacks. With perforated peptic ulcer there is almost invariably a history of chronic indigestion followed by a short period of acute pain before the final catastrophe. The mode of onset of the present attack is of supreme importance. For instance perforations, especially of peptic ulcers, happen very suddenly and cause agonising epigastric pain with collapse. The contribution of the general practitioner is of the greatest assistance to the surgeon. His knowledge of previous attacks and observation of the early signs and symptoms of the present attack are priceless. For instance, I was called to see a young doctor one Sunday evening because his partner had seen him in great abdominal pain at 5 a.m. that day; he had not slept since. His partner thought that he could feel a tender appendix at 11 a.m. and again at 4 p.m., but although the patient looked pale and ill the pulse and the temperature were normal. When I saw him at 7.30 p.m. the pulse and temperature were still normal and there was no resistance, but some slight tenderness low in the right iliac region; otherwise the patient appeared to be normal in every way and it took me a long time to persuade him to have an operation. The appendix was found to be full of pus, greatly swollen, covered with lymph and perforated at the tip, where it was fortunately embedded in a piece of omentum. He made a rapid recovery and owes his life to the accurate observations and judgment of his partner.

It is always wise to ascertain about the food partaken before the attack, for the case may be one of irritant or of ptomaine poisoning. Others who have partaken of the same food may be similarly affected.

The history of an *injury* is sometimes of vital importance; for instance, a lady suffering from peritonitis was found on cross-examination to have fallen over her portmanteau, the hard corner of which had torn her duodenum. Sometimes the exact nature of the injury is of value. For instance, an old man, who had been discovered in his garden with a broken left femur, developed intestinal obstruction a few days later, and on going very carefully into the history, and by cross-examination, it became evident that the man had jumped out of his bedroom window in order to commit suicide. He had fractured his pelvis on the left side, and a large hæmatoma in the pelvis was pressing upon his pelvic colon and rectum. An operation was successfully avoided.

(*b*) EXAMINATION

It is necessary to examine the whole body systematically and rapidly in order to avoid making grave mistakes. We have to remember that although the symptoms may appear to be abdominal the disease may nevertheless be thoracic, cerebral, spinal, urinary or general.

(1) *Thoracic Disease*—

The pain and tenderness of pneumonia or pleurisy radiating along the intercostal nerves are often referred to the abdomen, which may also become resistant, so that there is considerable danger of mistaking it for acute cholecystitis, perforated peptic ulcer or appendicitis. But such mistakes can be avoided by carefully and repeatedly examining the chest for a rub, rales or dulness. Above all with pneumonia the respirations are too quick and the temperature too high in comparison with the pulse. But undue haste may lead to error, so that the abdomen has been opened for early pneumonia or pleurisy. On one of the several occasions when I had double pneumonia, having gone to bed well, I woke from an unpleasant dream with acute pain and exquisite tenderness in the right hypochondrium. I was convinced that I had acute cholecystitis, and in my dream I had seen a surgeon, whose methods I disliked, groping about in my gall bladder for elusive gall stones. It took some time for two of my medical colleagues to convince me that my abdominal pain and tenderness were referred from pneumonia and pleurisy on the right side.

The opposite mistake is even more tragic, that is, the mistaking of a perforated duodenal ulcer or gangrenous gall bladder for pleurisy or pneumonia, thus leading to delay before the operation, which is the only hope of saving life. It is easy to mistake a sub-diaphragmatic rub for a pleural rub. Similarly, acute cardiac lesions such as cardiac infarction, coronary thrombosis or angina pectoris may cause such severe epigastric pain as to be mistaken for acute abdominal disease. Dr. J. A. Ryle* draws attention to this in discussing "John Hunter's Cardiac Infarct."

(2) *Nervous Diseases*—

The vomiting due to cerebral tumour or other disease of the brain has been mistaken for that of intestinal obstruction; but here the abdomen is flat or even carinated, the vomit is rarely intestinal and constipation is never complete. The abdomen has not uncommonly been opened for

**Lancet*, February 18th, 1928, p. 332.

the severe crises of locomotor ataxy, and the same mistake has been made with tuberculosis or growth of the spine, the pain being referred along the intercostal nerves; the abdomen may become exquisitely tender and rigid. I have known an aneurism of the descending thoracic aorta just above the diaphragm cause great abdominal pain and distension, with other symptoms of intestinal obstruction, possibly from irritation of the splanchnic or intercostal nerves. The abdominal symptoms of general febrile diseases such as enterica have been mistaken for those of appendicitis, leading to blank operations, but this mistake is not so serious as the opposite one, too often leading to fatal delay before the operation for appendicitis. In enterica the temperature is disproportionately high as compared with the pulse rate.

(3) *Urinary Diseases*—

It is possible to mistake diseases of the urinary organs, especially of the right kidney and ureter, for acute appendicitis, therefore it is necessary to examine the urine with care in every case, and sometimes radiography or cystoscopy may reveal obstruction of the right ureter as a cause of the acute symptoms. Pyelonephritis on the right side has often been mistaken for appendicitis.

(4) *Records and Charts*—

A close study of the charts recording the temperature, pulse and respirations is always desirable and frequently of great assistance, and in many acute cases half-hourly records are essential. With rare exceptions, the temperature is raised in acute inflammatory diseases such as cholecystitis and pancreatitis, and lowered in intestinal obstruction; there are important exceptions, however, to this rule, for instance, the temperature and pulse may be sub-normal in the early hours after perforation, because of the shock caused by the severe pain; occasionally sudden death has occurred from this cause almost immediately after the perforation of a duodenal ulcer. After some hours, perhaps when the medical attendant first sees the patient, the pulse and temperature may have come up to normal, so that he, and the patient, may be misled to believe that there is nothing seriously wrong. This mistake is all the more likely if a sedative, such as morphia, has been given. The tenderness and rigidity which soon follow perforation should prevent this grave mistake. Before many hours the temperature, pulse and even the respiration rates increase, often with great rapidity, but the operation should be performed before these grave signs have time to develop.

(5) *The Site of Pain, Tenderness and Resistance*—

In deciding upon the nature of the acute abdominal disease it is important to examine the abdomen carefully by the aid of sight, palpation, percussion, and sometimes auscultation is of value. The mode of onset and, above all, the situation of pain and tenderness, resistance and perhaps swelling, are of the greatest value in diagnosis. It is not always easy to judge the severity of pain, but one that keeps a young person awake all night must be very bad. Deep and superficial tenderness and resistance are the most important indications if we examine for them with care with the warm hand, and with the thighs flexed and the abdomen relaxed, while diverting the patient's attention by conversation. The suddenness, severity and position of the pain due to perforation of a peptic ulcer are generally characteristic. Biliary colic due to the impaction of a stone in the cystic duct is very severe, and situated in the right hypochondrium, and passing through to the angle of the right scapula. The tenderness along Head's area is characteristic, and so are the deep tenderness, resistance and perhaps swelling over the gall bladder upon palpation, while the patient is taking a deep breath. The pain associated with the impaction of a stone in the common bile duct is often more severe and more nauseating, and the deep tenderness and resistance are differently situated, a little above and to the right of the umbilicus. Moreover, this impaction is usually, but not invariably, followed by jaundice. I knew a patient who had three stones in the common bile duct causing colic about once a fortnight during seven years, but the individual attacks never lasted more than four hours, and therefore never caused jaundice; the gall bladder had been previously removed. Acute hæmorrhagic pancreatitis causes terrible epigastric pain with collapse, tenderness, resistance and perhaps local swelling in the epigastrium, a quick pulse, cyanosis and fever, with an excess of diastase in the urine. The pain of obstruction, especially of the small intestine, may be very severe; it comes on at intervals of 20 to 30 minutes, and is often associated with nausea, vomiting and visible peristalsis, which should always be looked for. Apart from the attacks of colic, there is no increase of resistance in the abdominal wall with intestinal obstruction. The diagnosis should be made before there is distension or offensive vomiting. A blue line upon the gums is generally present with lead colic, but I have known its presence mislead and delay operation in several cases of genuine intestinal obstruction, or even perforation. The brown and intestinal character of the vomit and the unsatisfactory results of enemata should lead us to a correct diagnosis of intestinal obstruction. In all acute abdominal cases the hernial orifices should be carefully examined, for there may be strangulation at any of these orifices, with very

little local swelling, pain or tenderness. The operation for strangulated hernia is much simpler and safer than a laparotomy for the same condition performed for supposed acute intestinal obstruction.

(6) *Internal Hæmorrhage*—

Bleeding either into the peritoneum or into one of the hollow viscera should be suspected when pallor is associated with collapse. Frequent examinations of the blood will clinch the diagnosis. When the blood is free in the peritoneum the abdomen gets distended, doughy and somewhat dull in the lower part and flanks. The history of an injury may indicate a ruptured spleen, liver or intestine. The history of a missed period may suggest the rupture of an extra-uterine fœtation ; the very early signs of pregnancy and a pelvic swelling may make the diagnosis almost certain.

(c) THE JUDGMENT

As already said, complete and systematic clinical examinations and the careful sifting of all evidence generally leads us to a correct diagnosis. In most of these acute cases there is neither time nor need for special methods of examinations such as radiography, cystoscopy and blood examinations. But in less acute cases radiography may discover and locate a stone as the cause of renal colic. A blood count may indicate internal bleeding or acute leukæmia ; leucocytosis may prove hidden suppuration in subacute cases. But it is rarely wise to wait for this sign when the clinical evidence is sufficient and the need of treatment urgent. When we are dealing with the acute conditions of the abdomen we have to bear constantly in mind the great importance of time ; time is, in fact, the essence of the contract. We must not waste time, but make every endeavour to make the diagnosis quickly but calmly and to act upon it without delay. We have to decide first whether the patient is bad or not. It is not everyone that can do this ; some have the instinct fortified by experience, but we must all strive for this invaluable gift. Next, we have to decide whether an operation is necessary or not, remembering always that the result of the operations for these acute abdominal catastrophes depend directly upon the promptness and skill with which they are carried out. Extreme accuracy and refinement of diagnosis of the changes occurring in the abdomen is not nearly so important as the rapid but careful decision for or against operation. The exact nature of the internal tragedy matters little provided it be promptly disclosed and remedied while there is yet hope of recovery. The exact site of obstruction is immaterial compared with the crying need for immediate relief. The mortality of perforated peptic ulcer multiplies with every hour that passes before operation is performed. Similarly, with acute appendicitis, there need be little or no mortality if the operation is carried out within 12 hours, whereas, in fact, over 3,000 deaths occur every year in England and Wales from appendicitis, and nearly all these deaths are due to delay before operation. It is the same with intestinal obstruction, acute pancreatitis, ruptured hollow viscera, ectopic gestation and most of the acute surgical tragedies that occur in the abdomen. A surgeon should be asked to see nearly every acute abdomen as soon as possible, and in many cases it is also of great advantage for a physician to see the patient at the same time. But serial and multiple consultations should be carefully avoided because they waste time, with the result that the fleeting opportunities of doing good by surgery have been too often allowed to pass. For the want of early and radical treatment too many chronic abdominal diseases are allowed to go on until they terminate in the calamities which we know as acute abdomens. For this want of early diagnosis and immediate operations too many acute abdomens lead to death. The hope of the future lies in the proper education of the public concerning the danger of neglecting or maltreating abdominal symptoms, and in the livelier appreciation by the medical profession of the results of preventive medicine and surgery and of the dangers of delay in the diagnosis and surgical treatment of the acute abdomen.

I hope that I have not dwelt too much on the conditions that may be mistaken for the acute abdomen, and on the possibility of blank and harmful operations. These errors should be avoided whenever possible, but an occasional blank operation is better than delaying or refusing an operation which is the only means of saving life. It is better to be occasionally too bold than constantly too timid.

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Extracts from a Diary of a Voyage to the East as a Ship's Surgeon.

(The following extracts have no pretensions to literary merit and will perhaps be of very much less interest to the reader than to myself, to whom the various items were intended to serve like the notches in the sticks of certain South American natives who narrate incidents of their tribal history according to them. However, the Editor has kindly thought that they are worth publishing, and I offer my apologies for their staccato deficiencies.)

October 1st, 1927

I CAME on board to-day in time for lunch, having introduced myself to the Chief Officer and signed the articles yesterday. We were due to leave at about 5 p.m., but were ready to put out at about 4 o'clock.

The surgery is a very small cabin tucked away on the main deck near the engine room, and I spent a couple of hours this afternoon investigating the stores and implements provided, which are the barest minimum, but I expect at a pinch would suffice for most emergencies. There is no Hospital.

There are about 15 passengers on board, and on first inspection seem very pleasant. Among them are several children.

In the evening I paid my official visit to the Captain, who is an entirely charming man and very different from one's anticipations of a gruff-voiced, bearded skipper of a Merchantman which one accumulates from books of sea life.

October 2nd

Met and paced the deck in true nautical fashion with the Chief Engineer this morning. He has been to most parts of the world, and told some interesting things about the Chinese War. Chinese, apparently, get ammunition from Japan, who are often supplying them with cartridges with paper bullets and dud powder, the cap making the necessary noise.

October 4th

We sailed out from under a pall of low-lying clouds this morning into a most beautiful day of blue sky and dark blue sea with white crested waves —a real joy after England's last effort at summer. In the evening the breeze dropped and the sea took on the peculiar oily appearance that is characteristic of a windless day, and than which there is little more pleasant in appearance in the world.

We sighted Finisterre this afternoon, and for several hours steamed within sight of the coast, which we could only very dimly make out. A white building of some sort—a castle in Spain ?—could just be seen on one of the prominences.

There are 23 horses bound for Singapore in the after hold. They are accommodated in pens, the sides of which are padded. I wonder if there are any other animals in the world which can stand without lying down once for a period of nearly a month !

Right over the stern are a congregation of dogs, also bound for Singapore—two Pointers, two Mastiffs and two Great Danes. And these afford one of the morning's interests, as we all turn out to let them loose for a run on the poop deck.

October 6th

Sighted Cape St. Vincent last night at about 9.30. Previously in the day the ship had sailed quite close to the shore, which looks rather barren though this is apparently often the case with even quite heavily wooded country.

When the morning mists cleared the sea took on the appearance identical with that in the painting *Off Valparaiso*. As we approached the Straits of Gibraltar a very stiff breeze became appreciable. It seems there is always a strong wind here, which dies away on passing through into the Mediterranean. The wind blew directly from the east, and therefore through the Straits.

We were fortunate in having a perfect day for seeing the Rock, which stands out magnificently from a very mountainous country behind. The Rock itself consists of two heads looking south-east, the heads being joined by a ridge. The town and harbour lie at its base to the west, the town apparently standing on a platform extending out from the main bulk.

The African coast is more mountainous still, with one very fine and rugged peak to the west of the promontory of Ceuta, with the town of that name on the land side of the isthmus. As far as one could see through glasses Ceuta is just the African town of one's imagination, with white walled, flat-roofed buildings and small dark windows.

As one passes through the Straits the south-east face of Gibraltar becomes visible. A large part of the space between the two heads is plastered

with concrete for the purpose of catching water to fill the reservoirs below.

Farther west, on the main land, is the Spanish town of Tariffa, clustering at the case of a pier with a podgy lighthouse at its end. The English word "tariff" is apparently derived from this town, which is situated on the nearest point of Spain to the African shore—and "tariff" was apparently exacted from the Moorish traders in the old days.

The Mediterranean lives up to its reputation for blueness, and when the sun set this evening it caused a magnificent afterglow in the west—a band of blue along the horizon with a band of pink above it; the sea became an almost unbelievable dark mauve colour. To the north could be seen clearly the mountains of Spain in pale blue, their bases obscurred by a grey-blue mist. A half moon stood quite high in the sky, while far away, against the yellow west, was a patch of a steamer's black smoke.

October 7th

For the last two days the ship has been continually in sight of the North African coast, the land behind which is very mountainous. Algiers was passed last night at about 10 p.m., but very little could be seen of it except a few lights.

Two doves alighted—at different times—on the ship yesterday, though we were quite 10 miles out. They are small birds, with light and dark striped wings.

To-day two robins rested for a while on the ship.

There are surprisingly few sea birds in the Mediterranean—only a very occasional gull.

A swimming bath has been erected on the afterwell deck; quite a small bath, but very pleasant to leap into after deck tennis. The water, taken from the sea, was 75° F. this afternoon, a little warmer than the air.

Inspected the crew's quarters in fo'castle yesterday afternoon. It was interesting to see how individual bunks varied in the way in which they are kept. In one compartment were about 30 bunks, some of which were dirty and untidy, while several were quite spick and span, though all were stokers and deck hands.

Boat drill this afternoon. The crew of No. 3 boat had to swing her out on her davits—and seemed thoroughly to enjoy doing it. They are all very young and looked about 17 or 18 years, but it is difficult to estimate a Chinaman's age.

October 9th

Passed the island of Pantellaria in the forenoon. The island presented a very pleasant scene, though we were too far away to distinguish anything definite. It was a slightly breezy, cloudy morning, and a large mass of cumulus hung over the highest peak of the island, giving it almost the appearance of a volcano, except that the storm cloud had a brilliantly white edge.

Towards the coast of Pantellaria was a small sailing vessel with full sails set and rocking on the long swell.

The island is used as an Italian convict settlement. It seems that prisoners are sent there to comparative freedom, living in small houses and being each allotted a portion of ground for cultivation. At the end of their sentences the proceeds from the sale of their produce are handed over to them.

In the fore-hold there are about 40 Love birds, which I discovered to-day for the first time. These are bound for Japan, where they fetch great prices, something like £40 a pair and even more. The Japanese Government is fostering an interest in birds, with the result that enormous quantities of birds are being imported to make up for the extreme deficiency on the islands.

I found a Chinese sailor vastly intrigued by these birds. He was looking at them with rapt pleasure, and wanted to know, when I arrived, "How muchee monee for one?" When I said, "Plentee muchee money," he looked sadly disappointed.

A very prettily marked butterfly settled on the ship this afternoon—the colouring was of brown, red and black, but I did not get close enough to see clearly. It was flying strongly though we were, I should say, about 12–20 miles from the land.

October 10th

We passed to-day at about noon a very pleasant looking little brig.

At about 3 o'clock in the afternoon we sighted a very fine water spout that curled up to a heavy bank of storm clouds. It persisted for quite 20 minutes and travelled rapidly, bending slowly in its middle and upper part from side to side.

October 14th

White suits yesterday. We arrived at Port Said yesterday at about 11 o'clock.

Port Said.

Formalities with the Port Doctor were very brief. I met him at the gangway and conducted him to the Captain, where he was handed the necessary form and he then departed, having given permission to haul down the Yellow Jack.

The approach to Port Said was first indicated by a small fleet of lateen sailed craft against the horizon, followed by the gradual appearance of the tops of the buildings of the town standing up, it seemed, out of the sea owing to the flatness of the land.

At the entrance of the Canal is a statue of Lesseps, looking towards his work.

As we drew up to our moorings we came almost abreast of the *Royal Oak*, a very fine looking warship indeed.

The town of Port Said comes down to the water's edge, and looks very like towns—at the front at any rate—that line the docks in most parts of the world. There was little vegetation to be seen and, apart from the Bourganvillia and a tree with intense green foliage and a red blossom, there were few trees to be seen from the ship.

In the town, however, there are quite a good number of trees lining the streets.

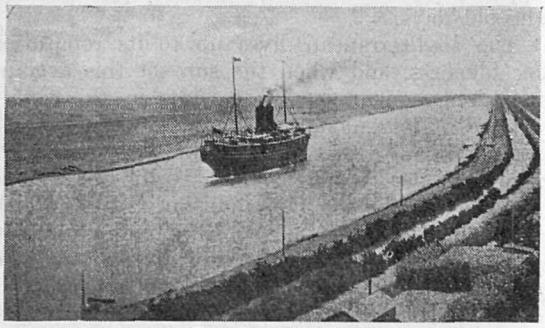
Street scene in Port Said.

The main street looked very much like a stage presentation of an African town, but very much more dingy and rendered inartistic by much advertisement.

As one passes the shops the owners rush out and try to induce one to enter. Once having entered, to pass out again is almost impossible without having bought anything. With the most ingratiating cajolery they urge the merits of their wares, asking about double the price they will eventually take.

One of the most unusual sights I have ever seen was the coaling at this place. Large barges, propelled by logs of wood used as oars—the logs later being the gangways from the barges to the ship—bring the coal, and a crew of villainous-looking Egyptians, singing and shouting lustily, alongside. The gangways being fixed, each of the band of piratical rascals seizes a basket and runs, literally, with a springing action up into the ship, where he discharges his basket and returns down a parallel log to have it refilled. So there is a constant stream of blackened humanity shouting and running up and down from the barge to the ship, and looking in the distance like a busy swarm of ants. They seem thoroughly to enjoy the whole affair.

We got away into the Canal at about 6.30 p.m., and, after dinner, were well into it.



The Suez Canal.

A pilot is taken aboard at Port Said, also a motley collection of Egyptians, who go over the side in their own boat (which is taken aboard for that purpose) when it is necessary to tie up to the side to let ships pass. They also fix up over the bows a very powerful searchlight. All ships have these and the Canal authorities provide a special dynamo to supply the electricity for them. The men who came aboard for the navigation through the Canal ply an incidental trade in gaudy and large beads, Turkish delight—of poor quality—and silks, shawls, rugs and robes.

Our first stop was at 11 p.m., when we tied up to let three ships pass.

On first sight the Canal, which is about 80 yards wide, looks as if it were amply broad to allow two ships to pass one another, but it is soon evident from the amount of movement that a passing ship causes to a moored one that this would be dangerous.

Very little could be seen beyond the banks and water of the Canal last evening, but this morning the desert was very much apparent. The fact that the desert in that part of the world was a mighty stretch of sand with almost no vegetation was quite well known to me, but the actuality came as a surprise. One could not imagine, I suppose, so much endless sand as there was visible on the Asiatic side. The African side, which has the benefits of the waters of the Nile, is far less barren and dotted with frequent oases.

It was a mildly overcast day, and the colour effects indescribable—all very delicate and gradually shaded from the light tawny sand in the immediate foreground through a suggestion of

added pink in the near distance to faint mauve and pale grey blue in the distant low hills. Above these was a light grey blue sky These colours were always altering slightly.

At about 10 a.m. we came to Bitter Lakes, a system of salt water lakes about two-thirds of the way along the Canal, and which have been included in the Canal.

Along the Asiatic bank are still very plain evidences of the defences during the War—much barbed wire and many kerosene tins.

The length of the Canal is just about 100 miles. It was originally all dug by shovel and the soil carted away by wheelbarrow. Labour was, of course, cheap, and almost unlimited. The Khedive at that time in return for an interest collected hordes of men from the neighbouring country and made them work for little more than their food.

The Canal now takes in dues about £1,000,000 a month. It cost our ship about £2,200 to come through.

We arrived at Suez at about 11 a.m. Suez itself, a town about five miles away from the entrance to the Canal, is irrigated with water from the Nile. Leading to the town is the fresh water canal, along which is a line of dense vegetation, apparently palm trees. Suez looks a fairly large town and hot.

Behind the town, and across the Bay of Suez, is a great, stark, grey-blue, absolutely naked mountain, passing in from the land and along the bay. This is another aspect of desert—not sand but barren rock.

The colourings here were much more vivid as the sun came out.

There were about six ships of various sizes and nationalities waiting to enter the Canal.

We got away at about 4 p.m., and had what must be an unusual sight in this part of the world —a rainbow on the east side of the Bay.

October 19th

We have come almost to the end of the Red Sea, and this part is studied with islands, all being barren; nothing more, in fact, than chunks of desert jutting out of the water. We passed the fairly large island of Abu Ail this afternoon, and it is difficult to conceive anything more desolate. Gaunt, scarred rock, mountains rise to about 500–600 feet with never a speck of vegetation to cover them. At the mouth of a valley near the shore a few stunted trees of some sort—not palms—could be seen, and sparsely fringing the shore were a few shrubs. Sticking out of the surf near the eastern end is the skeleton stern of some long since wrecked steamer.

The island is, of course, uninhabited.

A little way from the larger island is a rock standing out of the sea and surmounted by a lighthouse, of a distinctly Turkish style of architecture. These lighthouses, of which there are many on the frequent islands in the Red Sea, are mostly manned by Greeks, whom they must qualify for insanity.

The Red Sea has not been as hot as to be intolerable, but this being the best time of the year one can, from what it has shown, well imagine the concentrated inferno it must be at the height of summer.

As before entering the Straits of Gibraltar, there is a powerful wind blowing from ahead, this seems to be a common phenomenon at straits.

We shall pass the island of Perim, a small island just off Aden, this evening. We annexed this portion of land some time about 1870. I believe at that time the Germans called in at Aden, where there was a British Fleet, and inadvertently let it out that they were going to take possession of Perim. The British Admiral immediately organised a "Soiree," and one of the hostesses made herself more than sweet to the German Admiral, who found it difficult to tear himself away. Meanwhile the British Admiral sent a ship, which had taken possession of Perim by the time the gallant Germans had arrived.

October 20th

Passed Cape Gardafui this afternoon at about 3 p.m. A very barren piece of land with a long spit of sand hills running out to the extreme. It is only of recent years that it has been possible to keep the lighthouse at this spot inhabited. The natives from the interior used to make raids and clear out the lighthouse. However, an agreement has now been made with these people, and there has been no raid lately.

Just beyond the cape are two islands which are part of the same system as Socotra. Socotra is inhabited by some rascally Arabs, the sheikh of which tribe pays a periodic visit to Aden, where he collects a salary from the British, in return for which he undertakes to afford relief to shipwrecked British seamen.

As is common, I believe, there was a strong breeze blowing through the channel from the Arabian Gulf to the Arabian Sea. The smaller water of the Gulf or Sea, as the case may be, becomes warm sooner than the wider ocean. The air above consequently warms similarly and, rising, causes the rush of air through the Straits.

The sea in this neighbourhood has a pleasant dark green appearance.

October 24th

Frequent storms in Arabian Sea, with pleasant intervals of weather which is not too hot between them. Most of the passengers and officers sleep on deck, which means that we frequently have to

retire rapidly and completely drenched, to our cabins at any hour of the night and there perspire till the morning.

October 26th

Sighted Ceylon this morning at about 11 a.m. when a few mountains could be seen above the horizon. The sea was a glassy blue with a long swell, from which quantities of flying fish leapt, disturbed by the ship. These fish fly at a great rate, landing on the water for a brief second to get fresh impetus once or twice in a flight, which is about 200 yards or so.

As we approached Ceylon its mountainous character became evident, and later still the heavily wooded shore became plain. The trees were mostly coconut palms. Ceylon is said to be one of the most pleasant parts in the East. Offering a very large variety of climates in a comparatively small area owing to its being a mountainous island, one can enjoy the tropical sea coast, and a few hours later a bracing mountain air, in which tweed suits are necessary.

At about 6 p.m. we came opposite Galle, the one time chief port of Ceylon till Colombo supplanted it, the harbour at Galle being too difficult of entrance.

There was a very rapid but beautiful sunset this evening, the colours, from blue to mauve, pink and gold, quickly tinging the clouds in the west and over the town on the shore, where the green of the palms was easily seen.

We passed sufficiently close to the shore to signal our number.

There is much lightning again this evening. Last night we were driven down from the upper deck, where we have been sleeping since the weather got warm, by a tropical downpour. This evening there are frequent squalls, which, I suppose, would have been very trying in sailing ship days, whereas now the officer on watch merely whistles for the quartermaster to bring his oil-skins.

November 1st

We sighted the lighthouse at the north extremity of Penang Island at about 6 p.m., and picked up the pilot at about 9 p.m., on the evening of October 30th, and got into the strait between the island and the mainland at about 10 o'clock, dropping anchor 20 minutes later.

The town on the island really has the name of Georgetown, but universally seems to be called Penang. The advantage of starting a settlement on an island, from which the mainland is easily accessible, is clear when it is remembered that the settlement in the early days was almost invariably the base for military invasion of the neighbouring country.

Coming into the roadstead was a most charming experience. As we passed the lighthouse frequent steamers, all lit up, could be seen making their way in and out, as shown by the red or green beam lights. A little later the water became phosphorescent, with patches of much greater intensity, which one could see ahead as whitish areas on the dark sea. As the ship ploughed through these patches the bow wave turned into liquid light of a bright electric blue, by which I feel sure one could have read. In the midst of one of these patches a ghostlike prau, with grey weird-shaped sails, glided by.

After rounding the north of the island the lights of the town came into view, each light with its golden trail across the water, with here and there red and green showing different jetties.

Mrs. ——— and I went forward to see the anchor dropped into the brilliance round the bows, and soon decided that Veronica should be wakened to come and see a sight that should by no means be missed. Veronica—æt. 7, Mrs.———'s daughter—was rather awed by the phosphorescence and the prospect of the huge anchor dropping.

As we came to the anchorage large lights were fixed up over the hatches so that the work of unloading the ship could go on through the night. These lights showed up the pale shapes of jelly fish of large size and in quite good numbers in the water round the ship.

Soon after dropping anchor the work gangs of Tamils—coolies from Southern India—came aboard, and the noisy business of unloading a ship was soon in full swing.

I went ashore with ——— on Monday morning and stepped straight into the East, which is a new world. As we left the launch we were surrounded by jinrickshaws pulled by coolies with flat comical straw hats. Out in the streets were Malays, coolies, Chinese and an occasional European, the latter always in a "rickshaw," never walking. This, of course, provided an amazing variety of costume, from dazzling white duck suits and solar topees to loin cloths.

Bungalow in The Malay States.

Most attractive were the brightly coloured sarongs and sort of tunic shirts, also tastefully coloured, worn by the Malays.

Passing along the street one saw here a coolie with a loin cloth and a head covering like the top of a large laundry basket—a hat the size of the top of a tea table—and there a dignified Chinese woman in a black varnished garment like pyjamas, with shortened legs to half way down the calf, small slippers and jet black varnished hair—or at least so it seemed, so smooth and shiny was it—decorated with ornaments of pearls. And everywhere dignified looking men in flowing garments with red or white dots between the eyes indicating their caste.

The town is really beautiful, with a wealth of trees of vivid green, none of which I could identify except the palms.

We had lunch at the "E & O" Hotel, a place well situated on the sea front, and the oldest and best hotel in Penang. During lunch there was a tropical downpour, when the Heavens were opened and buckets of water came down—not, by any means, the " gentle rain from Heaven " with " the quality of mercy."

In the afternoon Mrs. ——— and family, in the name of Veronica, gave a tea at the E & O, after which we took a motor and drove round the town, firstly to the racecourse and then out to the northern point of the island, where the swimming club is.

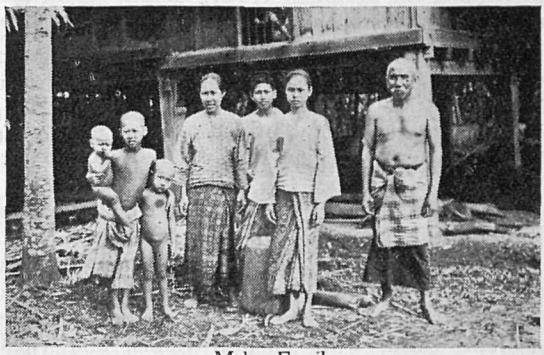
Towards the Race Club is the region where the wealthy Chinese live, and it seems that they are by far the richest people in the place, judging from their houses, some of which are mansions very attractively designed, mostly with a large open apartment occupying the whole front of the building on the second storey. The arches, which are very wide, can be closed with screens. The gardens are beautifully kept and everywhere are groves of palms and great brilliantly-green trees. The canna grows to perfection, as do many other blossoms which I did not recognise, except the crimson hibiscus.

Passing the Race Course we entered the Botanical Gardens, where the jungle has been tamed. Through it are several streams with frequent waterfalls, one of fair size.

We stopped the car to watch some monkeys, which are the analogies of the squirrels in Regent's Park. They will come and, like English squirrels, take food from one's hand.

Leaving the Gardens we passed through the native quarter, which was not a squalid " location " like those in South Africa, but very pleasant thatched houses, all on stilts, amidst palm trees, and each house well spaced from the others.

Unfortunately, at this stage there was more rain and we had to return to a wet ship.



Malay Family.

November 2nd

I went ashore with Peggy(aged 6 years) to have some films developed. These, incidentally, are complete failures. Peggy firmly decided that she wanted a sunshade, which I was to buy for her. So we visited a likely looking shop and requested a small size of sunshades. We were shown magnificent silk covered affairs costing enormous sums of money, the best of which Peggy desired greatly. I had to disappoint her as there was nothing else to be had. This stimulated a passionate desire for a sunshade, and we searched the place for something which would deplete the exchequer less —without success. And Peggy, no doubt, has lost faith in men, despite a mighty tin of toffee.

I suggested that we should buy something for her small brother, and immediately she chose either a bicycle that was near by or a lawn mower ! —this in all seriousness.

The passionate desire for the parasol was caused by the fact that Veronica and Mary (aged 7 and 4 years) each have one, and the feminine desire for equality, if not superiority, in matters of adornment apparently develops early. She really was intensely anxious to have a parasol, and nothing less than a brilliantly designed silk one.

To-day has again been soaking wet from about lunch time. It is a quaint sight to see the umbrellas that almost every native has, even to the bargemen. It is a most incongruous sight to see a native helmsman, naked to the waist and with nothing but a cloth round his middle, carefully protecting himself with a large umbrella while he steers a barge. Everywhere in the streets you will see almost naked men and women under large umbrellas.

November 4th

We came into Port Swettenham last night after dinner. This port is of recent date and consists chiefly of a few sheds about five or six miles up

the River Klang, which runs into the sea by a delta. It promises to develop rapidly as a place for loading the produce—chiefly rubber—from the area round, being the only harbour of any size between Penang and Singapore. Both sides of the stream are jungle. On the further side are tall slender-trunked Baccau trees, that give very valuable timber—stakes which are not rotted by water. The north bank consists of mangrove swamps.

The next morning I went by car to Kuala Lumpur, the capital of the State Selangor.

It was a beautiful drive, first through palm groves with native dwellings amidst them, and then into the rubber estates. The rubber trees are medium sized, with smooth trunks, and yield about 5–6 ounces of rubber a day. The bark is cut away like the stripe of a corporal and a small cup is fitted at the lower apex of the cut.

After passing Klang—most places have metallic sounding names such as Klang—we came to the tin dredgers. The ground here is very rich in tin, and the most satisfactory method of getting it is by digging out an area which is flooded. The bottom is then dredged, and sifting separates the tin ore, which fetches about £260 a ton.

The country is heavily populated and the roads excellent, being mostly macadamised.

Kuala Lumpur is a perfectly charming spot about 30 miles from Port Swettenham. It lies in a small valley and amidst trees and palms. You pass native, Chinese and Japanese shops and soon the railway station, which is much more like a palace than a railway station, being built after the style of architecture of the Taj Mahal, with minarets, domes and the characteristic arches. The whole is snow white.

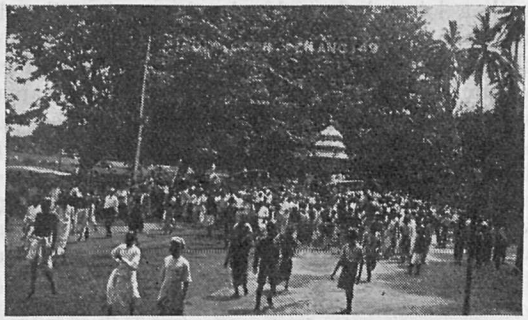
Later, one passes the Government buildings, which are built in the same style, but buff coloured.

The State of Selangor is administered from Kuala Lumpur. Nominally the Sultan is ruler, but in point of fact the ruling is in the hands of the Resident and ultimately the Governor, Sir Hugh Clifford.

We had lunch at the Great Eastern Hotel—originally the mansion of a wealthy Chinaman. The temperature was very high, but every day, so I am told, it rains once; this cools the air delightfully. It certainly rained the afternoon we were there.

At about 5 p.m. we took a car and drove round the town, first through typically Eastern streets, where semi-naked coolies jostled Malays and small Japanese hurry about their business. Bearded Indian police in khaki shorts, puttees, tunics and blue and white turbans keep order.

The Botanical Gardens are very well worth seeing. Through them runs a stream, with here and there a Japanese type of bridge, and everywhere are bright flowers, palms and trees growing on fresh green lawns.



Outside the town are the pleasant bungalows of Europeans, always made open to the air and often covered with flowering creepers and invariably surrounded by spacious and beautiful gardens.

I returned by train in the evening; a well-appointed train that ran right up to time.

November 7th

We arrived at Singapore at about 9 a.m. on the 5th. Unfortunately, a continuous downpour of rain that would have done credit to an English summer prevented our seeing much of the entrance to the harbour, which is said to be extremely beautiful.

However, we got a very clear view of a Malay village built in the shallow water of the shore. Each house is on slender piles, which raises it about 8 feet above the water. The reason for their building in such a place is not quite clear. One wonders whether this is handed down as a principle from prehistoric days. I believe that a similar village on piles was recently discovered in a Swiss lake, and no doubt in days of prehistoric menaces such a method of house building would afford quite good protection. At all events, the effect is quaintly pretty.

Malay dwelling near Singapore.

We berthed alongside the quay at about 9.30, and soon the ship was swarming with a variety

of Oriental hawkers of every kind of clothing, tailors who will make for one a suit in a day, barbers, money changers, fortune tellers and vendors of fruit.

It was at this port that the horses were unshipped, with no mishap. They were led out from their accommodation on to a gangway to the shore. Only two showed any disinclination to walk along the gangway, and these had to be taken ashore in a horsebox, lifted by a derrick. A large crowd of coolies gathered to see this procedure, and were greatly interested. The man in charge of the disembarkation of the horses, thinking that they would frighten the horses as they came out, would descend from time to time upon this crowd and, swearing ferociously at them, brandish a stout cane. The coolies would tumble over each other in their efforts to get away, but laughing like schoolboys, and collected again in a few minutes.

There was one rather amusing pair—an excessively tall slender fellow with what looked like a sheet round his middle and a towel draped over his shoulders, and a short fat little fellow with ferocious moustaches. The tall one, quietly on tiptoes and with an expression of mischief, crept up behind the other and, making a hand like an ostrich head, pecked the little one on the shoulder and then quickly put both hands over his eyes. Apparently the small one was unable to guess who was blindfolding him and had to produce betel nut for two.

In the afternoon I went to the hospital, where I was lucky enough to find Sister Hughes, who trained at Guy's, and who came out here two years ago, and I was asked to go out to dinner at the hospital at Johore, on the mainland, about 18 miles away. This was a very pleasant drive through the town first, then over the Causeway joining the island to the peninsula. The straits separating the island are only about half a mile or less wide, and look more like a river. The island itself is, I should say, about 30 to 40 square miles in size, with the town at its southern extreme. The town is very charming, and we were fortunate in having cool weather—or relatively so.

At Johore we had dinner with the Sister in charge of the Hospital. A host of crickets and other insects acted as orchestra, and little lizards, with bodies as if of semi-transparent soap and black eyes, caught flies on the walls.

On Sunday morning Surgeon-Commander O'Flyn took Sister Hughes and myself to the site of the new Naval base, which is to be at the north of the island and on the Straits. There is little to be seen just now, and the main work is directed to the abolition of the mosquito. The first step is the spreading of a mixture of paraffin and heavy oil on any standing water till it can be drained.

It seems that a malaria-carrying mosquito can breed in salt water under certain conditions—for example, shallow marshes left by the sea, provided no fish can get to the larvæ, such things as reeds or water weeds preventing them. The mosquito can breed in all sorts of unexpected places, such as old cigarette tins, anything that can hold a few c.c.'s of water; in fact, even the spaces at the top of palm trees.

In the afternoon I went rapidly over the Hospital, which is a magnificently appointed place, with great halls of operating theatres. There are 700 beds in the Hospital, and these are divided into three classes. For the first class a charge of 12 dollars a day is made—dollar 2*s.* 4*d.*—for the second 8 dollars and for the third 3 dollars; there are also free wards. The nursing is done by Eurasians, Chinese or Malay nurses who are trained at the Hospital, but each ward is in charge of two Sisters—home trained—who take turns for duty.

There is also a Medical School attached to the Hospital which, unfortunately, I did not have time to visit.

We left Singapore next morning at sunrise, but went out through the less attractive entrance to the harbour.

November 9th

Rough weather.

(There had been no illness of importance till the following case, which looked to me very like a case of para-typhoid. However, after going ashore to the Government Civil Hospital at Hong Kong he had a remission of temperature for two days, after which it again rose to about 100° F. for a few days, which is said to be typical of Dengue fever. His joints were not at any time tender, nor did he have a rash. but his convalescence was very prolonged, which is said to be a characteristic of the condition.)

Quartermaster H——. Age 21 years.

Previous History—Good; vaccinated; no history of malaria nor serious illness. Prickly heat since Red Sea.

Complaint—Two days malaise and frontal headache. Right canine tooth tender on pressure. T. 101.5, P. 80. No abdominal tenderness. Throat small yellow follicle on right side of uvula, apparently not acute. Tongue slightly furred. No rigor. Anorexia.

November 10th—T. 101, P. 76, R. 14. Headache still persists, tooth less tender. Abdominal discomfort in epigastrium. Pain in right shoulder muscles and low down in back. Face flushed.

Throat—I.S.Q. *Chest*—Resp. 14, moves evenly. Percussion and auscultation impossible owing to engines. *Heart*—Normal in size. *Abdomen*—Tenderness in epigastrium, spleen definitely palpable and hardish. *Urine*—No albumen. *Bowels*—Slight normal motion.

November 11th—9 a.m., T. 99.4, P. 76 ; 6 p.m., T. 101.4, P. 78. B.N.O.

Morris Atropine Test—Atropin gr. 1–33, given at 2 p.m. P. 76, 78, 78. Twenty-five minutes later, P. 80, 78, 80. Skin dry, no dilation of pupils, Mouth dry. One hour later—P. 80. Pupils half dilated. Spleen still palpable. Pains I.S.Q.

November 12th—Feels better. 9 a.m., T. 100.1, P. 76 ; 6 p.m., T. 101, P. 80. B.N.O. Tooth still tender.

November 13th—Feels better. T. 99.4, P. 66. To Hospital.

November 13th

We reached Hong Kong at about noon this day. Hong Kong is rightly called the jewel of the East. We sighted a largish island at about 10.30 a.m., a barren mountain sticking out of the sea and looking like four or five prehistoric monsters lying in the water with their backs projecting.

To the east of this was the island of Wag Sam, with a lighthouse on it.

(*To be continued*) P.F.S.C.

The Internal Secretions of the Ovary.

The Present Position of our Knowledge.

ON Thursday evening, March 1st, an interesting discussion was held on the internal secretions of the ovary, by kind permission of Professor Pembrey, in the Physiological Theatre, under the auspices of the Physical and Physiological Societies. The main addresses were delivered by Professor W. E. Dixon, M.D., F.R.S., of Cambridge, and Dr. A. S. Parkes, of University College, both of whom are leading authorities on this subject.

The chair was ably occupied by Dr. J. A. Ryle.

Dr. Ryle in introducing the lecturers said :—Professor Dixon, who has so kindly come down to address the meeting this evening, scarcely needs any introduction from me. He is known everywhere for his valuable contributions to medical and pharmacological science. Among students he holds the distinction of having written one of the best and most helpful text books on pharmacology. By ties of education and examinership he is connected with the three great Universities of Oxford, Cambridge and London. In the latter capacity some of you will already have had—and others will shortly have—the honour of meeting him in less engaging circumstances, but this evening he stands at your tribunal and it is open to you to submit him, after his address, to a searching *viva voce*. Professor Dixon has a further distinction—he was partially educated at Guy's, where he took a D.P.H. course.

Dr. A. S. Parkes will also be well known to you by reason of his valuable researches on the subject for discussion this evening.

If, however, Professor Dixon and Dr. Parkes need little introduction from me, I hope they will forgive me for telling them something of the Pupils' Physical Society and the Physiological Society of Guy's Hospital.

The Pupils' Physical Society is a direct descendant of the older Physical Society, founded in 1771, and can, therefore, lay claim to being the oldest medical society in London. It has always been run by students and for students. Its papers are read and its cases shown by students. Its Presidents are elected from among the senior students and residents of the Hospital, and they employ as their Honorary Secretaries two of the most learned members of the Junior Staff. Only on vary rare occasions—excepting at the yearly inaugural address—have they invited distinguished personages from outside to address their meetings. Jenner addressed them and had his contentions accepted by them at the time when they were still adversely criticised in other quarters. They have also been addressed, among others, by Sir William Osler. So that Professor Dixon and Dr. Parkes may hold themselves to be in good company.

The Physiological Society is of more recent birth, and only attained its majority a few years ago. It has always been noted for its virile constitution and love of informality. These traits are clearly inherited, for Professor Pembrey was its spiritual father.

I now call upon Professor Dixon to address you on the subject of "Ovarian Hormones."

PROFESSOR DIXON

Mr. Chairman and Gentlemen—

I assure you that I address this, the oldest Medical Society in London, with the utmost

respect. It is usual in opening a discussion to preface one's remarks with some sort of text, and I would suggest a translation from the works of a great pathologist, who said: "Everything which in the true woman we admire and revere as womanly is dependent upon the ovary." Another eminent pathologist has said the same thing many years previously, but he made the mistake of referring those attributes to the uterus.

This evening I am going to refer a good deal to the pituitary, as it is very considerably influenced by the ovary. You all know that at puberty there is an obvious change in the endocrines. There is an enlargement of the thyroid, the parathyroids and the suprarenals. We know, for example, that when a girl reaches the age of puberty her pulse quickens, her eyes get larger and she is on the verge of attaining a true hypersecretion of the thyroid; it is becoming, rather than otherwise. At pregnancy we know that the thyroid again increases, and also the anterior lobe of the pituitary. From the pituitary you can separate two chemically pure substances, one of which does not affect the blood pressure but has a marked effect on the uterus. This substance has only one action so far as we can determine. Its only influence is exercised upon the uterus; in large doses it sends this organ into tonic contraction. In tiniest doses it increases the sensitiveness of the uterus to such an extent that the smallest stimuli will send it into contraction. Why should a gland be placed in the base of the brain, of which one of the constituents has that remarkable action upon the uterus?

There is another thing I should like to mention here. You know that it is only possible to produce abortion by means of pituitary towards the end of pregnancy. You can produce abortion quite easily at the beginning of pregnancy by another substance, which can be dissolved from the placenta and from other parts, but which is originally formed in the ovary. This substance is known as œstrin, and the further pregnancy has progressed the larger will be the dose required to bring about abortion. On the other hand, you require perfectly enormous doses of pituitary to produce abortion until parturition is near at hand, and then the effective dose becomes smaller and smaller. The pituitary acts by contracting the uterine muscle, and this is not sufficiently developed to respond effectively at the earlier stages.

Why does the ovary require a certain stage of development before it begins to function? We really do not know the answer; it is just the same with other hormones. If you take a very young animal which is spayed and graft into it an adult ovary, that ovary will not produce any appreciable effect on that animal, and it will fail to acquire the sexual cycle. If, however, you take an adult castrated animal, either male or female, and graft into it an adult ovary, the animal will show ordinary sexual cycles; and if you put a very young ovary into it, an ovary which is not due to exert its physiological action for months, that will act equally well. In other words, there is something in the body which stimulates the ovary to activity; and we are not sure yet, although we have a fair suspicion, what that substance is. The age of the ovary does not determine puberty; puberty is determined by something in the tissues of the body acting on the ovary.

A Society such as this, I feel sure, needs no proof that the ovary has an endocrine function. Everybody knows that by spaying an animal or woman you get certain results which can be cured by grafting another ovary.

From the ovary you can obtain at least three substances. In the first place, there is œstrin, a substance which can be dissolved in a liquid solvent. In this connection, incidentally, certain anomalous events have occurred. For example, one firm claims that it only has the right to dissolve out œstrin from the placenta; they have patented this right, and they say you must not sell it without their permission. Œstrin is a substance which you can boil or heat to a reasonable temperature, and which has the property of bringing on "heat" when injected into a spayed animal, and of producing abortion in the early stages of pregnancy. When you give this substance to a woman it has the effect of producing changes similar to those of menstruation, and of producing a certain amount of hypertrophy of the uterus and perhaps of the endometrium.

Dr. Parkes is the world's authority on the second substance—the corpus luteum. The sexual cycle is dependent on this corpus luteum. It governs the metabolism of the ovary, and when it degenerates you get the characteristic changes which are referred to as "heat." In the case of pregnant animals, corpus luteum does not degenerate until immediately before parturition.

What is the evidence that the corpus luteum does this? The first evidence is that of pseudo-pregnancy. Many animals pretend they are pregnant when they are not. Some women do that also. You can quite easily produce pseudo-pregnancy in the rabbit by cutting the vas of the male and then letting it have connection with the female. The doe will pass through all the changes of a pregnant doe; its uterus will grow, and its breast and nipples will grow. It will pluck itself and make a nest and get all ready, until the corpus luteum degenerates, when it will begin to secrete milk. Pseudo-pregnancy is due to the failure of the corpus luteum to degenerate. When

you get cases of sterility in animals, the Vet. always infers that the corpus luteum has not degenerated. Sometimes he can feel it through the vagina or rectum, and he squeezes it out. The cat or cow will then behave in the normal manner. The other evidence is, of course, that a pregnant animal will promptly abort when the corpus luteum is excised or destroyed. This has been demonstrated on many animals. The last proof is that the injection of corpus luteum into an animal leads to sterility. If you inject corpus luteum you prevent the "heat" period coming on, and you render the animal sterile. Under these conditions hens will refuse to lay their eggs.

Now, if you take the ovary of a pregnant animal and make extracts, and inject these extracts into another animal, you will obtain results in accordance with the stage of pregnancy attained. Extracts from an ovary removed towards the end of pregnancy cause a really excessive secretion of pituitary into the cerebro-spinal fluid of the animal so injected. If you draw off cerebro-spinal fluid from an animal in the stage of parturition, you will find a high pituitary content. In Germany cerebro-spinal fluid withdrawn from women in labour in the course of Cæsarean sections has been used to stimulate labour pains in other women. Extracts obtained from the ovaries of animals at an early stage of pregnancy do not excite the pituitary to secrete in this way. We have termed this pituitary-exciting substance, obtained from the ovaries of animals at a late stage of pregnancy, the interstitial hormone. It can also be obtained from ovaries at the "heat" periods. Insulin is another hormone which causes an increased secretion of pituitary.

What I have tried to show in introducing this discussion is that the ovary is unquestionably an organ of internal secretion; that it determines everything maidenly and sweet in women; and that from the ovary there are three important substances at least that may be extracted: One is œstrin; the second is the substance which determines the cycle of sex; and the third is the substance which renders the uterus supersensitive, and which is only secreted either at the "heat" period or just before parturition.

DR. PARKES

Mr. Chairman and Gentlemen—

I should like to discuss the work which has recently been done on the actual mechanism of the periodicity of the ovary. Professor Dixon has told us what the ovary does, and we now want to know how and why it does it. The ovarian cycle is essentially composed of two parts, namely, the maturation of the Graafian follicles, which is the preliminary phase, and the development of the corpus luteum, which constitutes the second phase. The extent to which the development of the corpus luteum proceeds is connected in the unmated animal very largely with specific differences. In the case of the mouse or rat the cycle is very short, and ovulation occurs about every five days. This allows no time whatever for the development of corpora lutea in the unmated animal. In the guinea-pig, and the cow is very similar, the corpora lutea of ovulation do undergo a greater development and actually have some function in holding off the next period of ovulation. This can be shown by extirpating the corpora lutea of ovulation, in which case the next ovulation is expedited. Three animals show an extreme state of development of the corpora lutea without pregnancy. These animals are the rabbit, the ferret and, to a lesser extent, the dog. In these cases the ordinary corpora lutea of ovulation develop to an extent which is reminiscent of pregnancy. The human is also an example of a considerable state of development of the corpora lutea of ovulation in the absence of pregnancy. The usual explanation of the human menstrual cycle is that ovulation occurs some 13–17 days after the beginning of the preceding menstrual period, and that the corpus luteum which follows ovulation determines the uterine growth which precedes menstruation. On this view the actual menstrual period is initiated by the atrophy of the corpora lutea of ovulation, which occurs after about 12 days of growth, and therefore some two to three days before the next menstrual period is due to begin.

Turning now to the problem of what really determines this cyclical nature of ovarian activity, the changes which are found in the accessory organs are, of course, entirely dependent upon the presence of the ovary, and we know that endocrine activity in its various phases determines these changes in the accessory organs. During the time when ovulation is taking place in the rat and mouse, the vaginal epithelium undergoes cornification, while the uterus shows extreme hyperæmia and becomes distended with fluid. Symptoms of a similar nature are found in other animals. These symptoms are always associated with the follicular or ovulation phase of the cycle in which ovulation takes place. The changes which are found in pregnancy and pseudo-pregnancy, such as the congestion of the uterus and the development of the mammary glands, are essentially correlated with the growth of the corpus luteum. The original—in fact, the obvious—idea as to the periodic nature of the endocrine activity of the ovary is to suppose that the Graafian follicle in the later stages of its growth, and also the corpus

luteum when it develops, produce internal secretion essentially associated with the synchronous changes in the accessory organs. As regards the corpus luteum that seems certainly to be so. We know fairly definitely that the corpus luteum is responsible for the features which are characteristic of the corpus luteum phase of the cycle. On the other hand, the maturing Graafian follicle cannot now be said to be the essential site of the elaboration of œstrin. The synchronisation between follicular maturation and the œstrous symptoms in the uterus and vagina, is not necessarily evidence that œstrin is produced essentially by the follicle. The follicles in the ovary can be completely obliterated without upsetting the cyclic œstrous symptoms in the accessory organs. For instance, exposure to X-rays will completely effect elimination of the follicular system of the ovary. In the case of the young mouse the whole of the ovary six weeks after exposure to X-rays consists of nothing but connective tissue, together with an intense proliferation of the germinal epithelium. Mice, with ovaries of this nature, entirely lacking in follicles and corpora lutea, still go through characteristic extra-ovarian changes of the ordinary œstrous cycle. It is obvious, therefore, that these œstrous changes cannot be essentially associated with the growth of the Graafian follicle.

If the cyclic structures of the ovary are not responsible for the periodic occurrence of œstrus, it becomes rather doubtful whether the ovary is the regulator of its own periodicity, and the whole of the work of the last few years suggests most strongly that the regulation of the basic ovarian periodicity is external to the ovary itself. Professor Dixon has mentioned striking results of grafting immature ovaries into the adult animal, and the fact that these immature ovaries immediately become mature when put into the adult animal, shows quite clearly that the somatic age regulates the ovarian age. There is a lot more evidence of this same nature. In the case of the guinea-pig, the ovary, when transplanted into another female, keeps up its normal periodicity. When, on the other hand, it is transplanted into a male, it loses its periodicity. This seems to show that the mechanism which regulates ovarian periodicity is present in the female and absent in the male.

The first attempt to explain those facts was, I think, put forward by Hammond, who suggested that certain substances are necessary for both growth and reproduction, and that during the early growth of the animal these substances are used for growth and are not available for reproduction. Thus, the reproducive system only begins to function when growth has more or less stopped. This idea is, of course, somewhat hypothetical.

Quite recently a lot of work has been done on the nature of this external regulation of the periodicity of the ovary, and the results have been extremely striking. The actual centre of regulation appears to have been tracked down to the anterior lobe of the pituitary. If you take a suspension of macerated anterior lobe of the pituitary and inject it into a mature animal the ovary immediately assumes a state of enormous activity, the follicles ripen in profusion and the corpora lutea are produced on the same scale.

In the immature animal the results are even more striking. The ordinary mouse is, of course, suckled by the mother for some three weeks In the course of the next five weeks the growth continues, and normal puberty arrives at seven to eight weeks. Extreme cases may show signs of puberty at five to six weeks, but they are quite in the minority. If this suspension of anterior pituitary is injected into the mouse at weaning time the results, in about two days, are that all the signs of œstrus are shown, and the mouse assumes what may be called " precocious puberty." The injection of the mouse, even at seven or eight days old, brings on similar results. These same effects were found to be produced by injecting œstrin into the immature animal. There can be thus no doubt whatever that the anterior pituitary, if not the actual centre of regulation of œstrous periodicity, is at least a very strong factor in it.

The fact that the regulation of the ovary appears to be by the anterior pituitary body does not, of course, solve the problem of the nature of the periodicity. We now have to look to the anterior pituitary for the actual mechanism whereby periodicity is achieved. The anterior pituitary has apparently no cyclic structure at all, so that it would seem that the substance of the anterior pituitary, which is responsible for the stimulation of the ovary, is produced at periodic intervals. These intervals must, under certain conditions, be regulated by the ovary, because during the development of the corpora lutea, particularly, of course, during pregnancy, the whole of the œstrual and ovulation cycle is put out of gear ; no ovulation occurs and no œstrous symptoms occur. To that extent the periodicity of the ovary is under the control of the ovary itself, in so far as the corpora lutea may have an inhibiting action on the anterior pituitary. It should be emphasised that the effects of anterior pituitary injections on the accessory organs are only exerted by the ovary. The effect of anterior pituitary on an ovariotomised animal is simply nil, and so it is evident that ovarian activity must precede the changes found in the accessory organs after the injection of anterior pituitary.

When the corpus luteum develops, its history is entirely dependent on what is happening in the accessory organs. For instance, sterile copulation and lactation in the rat and mouse, and pregnancy in apparently all animals, leads to extensive de-developments. Before implantation actually takes place the corpus luteum is responsible for the sensitisation of the uterus. This sensitisation makes the uterus respond to any mechanical irritation. After implantation the corpus luteum is responsible for the maintenance of pregnancy, at least in a number of animals.

There is considerable dispute as to whether the presence of the corpus luteum is really required to maintain pregnancy. I think there is a certain amount of clinical evidence which suggests that it is not. In mice and rats the corpus luteum is quite definitely necessary during the whole of pregnancy. Experiments on the corpora lutea of pregnancy have always been complicated because of the difficulty of removing them. Either the whole ovaries have to be removed or the ovaries have to be dissected at operation. Recently we have been able to get over that difficulty by unilateral X-ray sterilisation of the animal. If this is done on the young animal an adult is produced with one normal ovary containing corpora lutea and one sterilised one with no corpora lutea, but capable of carrying out ovarian functions other than those associated with the corpus luteum. If, during pregnancy in such an animal, the normal ovary containing corpora lutea is removed, abortion invariably follows. If the other ovary is taken out and the one with the corpora lutea left, nothing happens ; pregnancy comes to a normal end at the normal time. As far as the mouse is concerned, therefore, these experiments show quite definitely that the corpus luteum is necessary.

The corpus luteum has at least one other function, and that is the development of the mammary glands. This has been studied to a large extent in the rabbit. I think Professor Dixon mentioned it, and I need not go into it in detail.

We want to know, lastly, whether the corpus luteum performs its various functions by means of one secretion only, or by means of a number of different secretions. At the moment we cannot answer this question. Extracts have been prepared which will inhibit œstrus in the unmated animal, but whether these extracts will perform the other function of the corpus luteum is quite unknown at the moment.

DR. RYLE

I came here to seek information, and I must confess that I feel somewhat, however profitably, overfed ! We have been very highly privileged to hear the excellent addresses of Professor Dixon and Dr. Parkes. And I feel sure that there is not one of you who will not look back in a few years, when this difficult subject has advanced a further stage, with gratitude to them. Professor Dixon has reminded us that the ovary is responsible for all the beautiful and good qualities of women. With all respect you will agree that this organ must also be held responsible for the exacting complexity of women. As a clinician, I am always trying to pick up crumbs from the scientists which will enable me to explain some of the difficult symptoms and manifestations that I find in my patients. There is no more prolific chapter in medicine than the symptomatology associated with the various sexual cycles in women. If I were to sit down with a large piece of paper in front of me and write down the symptoms, physical and psychological, which I have encountered before pregnancy, at the beginning, in the middle and at the end of pregnancy, I think I should go on half the night. A lot of these symptoms are very obscure. Yet I feel that I have perhaps gained the inkling of an idea that there are scientific explanations to account for most of them. It is obviously much too early to try to apply some of the scientific work we have heard about this evening to many of the difficult manifestations of female physiology and psychology. But it does seem to me to open a new chapter that will help us to understand problems that are at present exceedingly obscure.

We have heard the results of really scientific observations upon a complex chapter in physiology. But when you go out into practice you will, unfortunately, see the very opposite to this kind of mental process. You will find colleagues who are prescribing for their patients proprietary preparations which profess to be true ovarian extracts. To these they attach long names, but their administration is devoid of any kind of scientific observation whatsoever. Doctors are claiming that they are getting results from this and that and the other extract advertised, and in this way they delude themselves, their patients and some of their colleagues. Moreover, there are proprietary chemists who are always trying to make patients waste their money on ridiculous preparations which have no action at all when given by the mouth. So far as I have observed, apart from thyroid, we have no preparation of any internal secretion which, when given by the mouth, has any certain action, and yet thousands of pounds are being spent every year on these fictitious extracts.

MR. COOK

So lucid has been the exposition of these, the two greatest, authorities on this subject, that I

fear we may be tempted to overlook the difficulties and complexities of the fascinating problems before us. The confliction of evidence, both experimental and clinical, is simply appalling. We well know that invaluable results have been obtained of recent years by such responsible and enlightened investigators as Professor Dixon and Dr. Parkes, and we look with hope into the near future. In spite of this knowledge every honest gynæcologist—and there are a few—has to admit that his therapeutic stock-in-trade at the present time is essentially surgical, and, to a certain extent, psychological. I always suspect those pseudo-scientific gentlemen who warble learnedly of "medical" gynæcology and the endocrines; they generally know far less about the ductless glands than Professor Pembrey taught us in this theatre 20 years ago. The ovary is a very intricate organ; it functions in a cyclic manner and it contains various factors, some of which are apparently antagonistic. In the preparation of ovarian extracts, the technical difficulties would seem to be colossal.

When we come to apply to the human female the results of experiments on animals we are met by an entirely new set of complications. I guarantee to produce five or six clinical cases that will *appear* to contradict any statement that Professor Dixon or Dr. Parkes has made this evening. In the first place, there are anatomical and physiological differences which make it extremely difficult to correlate the sexual manifestations of women with those of the lower animals. We are only beginning to understand the exact significance of menstruation, and the relation of menstruation to ovulation. Secondly, we have to recognise that most women are perfectly hopeless as experimental subjects. Clinical research in gynæcology is a practical impossibility. The average woman in this country appears to be entirely incapable of making a plain statement of fact; her observations are almost invariably coloured by her own interpretations thereof. This is a corollary of what they call intuition. Again, there is the personal factor. One man will obtain the same apparent result by injecting sterile water as another armed with genuine œstrin or corpus luteum extract.

I must confess that I still have grave doubts as to the tenability of Professor Dixon's theory with regard to the termination of pregnancy and the onset of parturition. But when he can give us a safe and effective preparation of interstitial hormone that will enable us to induce labour by subcutaneous injection, and without recourse to the crude methods in present use, I shall regard him as the greatest benefactor to obstetric science and practice that the world has known since the days of Lister himself.

Lastly, we have to recognise those various types of women in whom the ovarian function is generally deficient. These may be of no great biological interest, and it may be desirable that they should not reproduce. But it is our job, as clinicians, to treat the individual. They frequently marry, and it is unfortunate that they should often attract a particularly virile type of male. Any form of treatment that will replace the deficiency and raise the sexual functions of these imperfect females to a normal level is worthy of our utmost consideration.

I would remind Professor Dixon and Dr. Parkes that they have not as yet told us whether any of the ovarian preparations so extensively advertised in the medical press and trades circulars are of the slightest value in any direction; and, failing these, when and where we may expect to obtain genuine extracts for effective clinical application.

The CHAIRMAN having intimated that the subject was now open for general discussion, MR. GIBBERD said he had not even any wrong ideas about the ovaries. His mind had been a perfect blank on the subject. The few fragments of information that he had been able to acquire had been largely gathered from those journals of ovarian therapy broadcast by manufacturing chemists. He was afraid he had taken the attitude that ovarian therapy in its present form, as known to the ordinary physician, was useless. They were very grateful to Professor Dixon and Dr. Parkes for placing before them something they could regard as a really scientific basis, upon which to build hypotheses approximating the truth of the matter. It would afford an antidote to the very pernicious literature which was so widely distributed at the present time with reference to ovarian therapy. He further referred to that theory which associated the incidence of menstruation with the lunar cycle. Primitive man presumably utilised the full moon for purposes of hunting and returned to the home circle during the intervals.

Various other members having raised pertinent points, PROFESSOR PEMBREY addressed the meeting "as a clinician." Unfortunately, he forbade the reporter to function. In the course of his remarks he violently condemned the pathological attitude of obstetricians in general, and, in extolling the comparative morality of the farmyard, field and forest, expressed his entire disapproval of the decadence of modern woman.

In reply to questions put in the course of the debate DR. PARKES said:—

I was asked why the corpus luteum of pregnancy should appear to inhibit œstrus when the elimination of the corpus luteum by X-rays did not expedite œstrus. It is quite certain that the removal of the ordinary corpus luteum in the mouse does not bring on any earlier œstrous period. When the corpus luteum becomes persistent by pregnancy, or pseudo-pregnancy, then it does develop an œstrin-inhibiting action, but only when it is caused to persist longer than it ordinarily does in normal ordinary ovulation. During pregnancy it persists for a long time, much longer than after ovulation or during pseudo-pregnancy. It seems, therefore, that these animals have a basic periodic œstrus-producing mechanism which is quite independent of the corpus luteum, and then, when the corpus luteum becomes persistent, either by pregnancy or pseudo-pregnancy, that normal periodicity is thrown right out of gear for a varying period.

As regards the actual necessity for corpora lutea during the whole of pregnancy, the evidence showed that the mouse does actually require corpora lutea the whole time, and that the guinea-pig does not. If the clinical evidence is definitely in favour of the fact that the corpus luteum in woman is not required during the whole of pregnancy, the human subject and the guinea-pig have something in common.

Concerning the question of the degeneration of the corpora lutea, Mr. Cook showed a slide of the ovary at the commencement of menstruation with an apparently undegenerated corpus luteum. Histologically, it is almost an impossibility to say whether the corpus luteum is still functioning or not, or has ever started to function. The corpus luteum of the mouse is histologically at the height of its vigour when the stimulus producing the next œstrous period is put into operation. Thus, it is difficult to argue about the functioning of the corpus luteum from histological appearances.

Lastly, I should like to thank the Chairman and the Society for inviting me down here to-night, and to thank you all for listening so encouragingly to an intricate and possibly incoherent discourse.

PROFESSOR DIXON

One thing that has been impressed upon me this evening is the enthusiasm with which the ovary has been received, though we have wandered away from it periodically.

Professor Pembrey seems to me to disagree with everything, except that there should be a sort of promiscuous copulation. I would like to point out to Professor Pembrey that the internal secretions are not only there to produce diseases in us, but they are there to produce everything that is worth living for. These hormones are natural alkaloids which are essential to ourselves, just as much as the atropins which plants produce are of some use to them. If there is a deficiency of these hormones, you can have no objection, whatever the state of civilisation may be, to replacing them.

I can only thank you, Mr. Chairman, for the extremely hospitable reception you have given us, and express regret that we have not been able to answer more efficiently either Professor Pembrey or the other distinguished people who have been so kind as to be amused at our few words.

F.C.

Dispensary Department Report for 1927.

THE Dispensary attendances from Out-Patients show an increase of 2,553 over 1926.

Previous reports have indicated the reason—*i.e.*, different Savings' Associations—for the increase in the number of patients who did not pay the nominal sum of 6*d.* for their medicine.

The attendances from the Out-Patient Annexe were 11,888 as compared with 12,099 in 1926, making a grand total of 236,987 for 1927.

Dressings—

It will be noted that a smaller quantity of grey bandages have been purchased, as they were considered to be uneconomical in use. The Surgeries have been supplied with white bandages instead, and the cost for three years is shown below :—

1927	*Gross*	£ *s.* *d.*
Grey Bandages	112	39 14 0
White Bandages	1,463	992 9 10
	1,575	£1,032 3 10

1926	*Gross*	£ *s.* *d.*
Grey Bandages	569	395 9 3
White Bandages	732	613 16 6
	1,301	£1,009 5 9

1925	*Gross*	£ *s.* *d.*
Grey Bandages	1,013	634 3 3
White Bandages	538	526 8 2
	1,551	£1,160 11 5

Larger purchases have been made of Bandage Cloth, Grey Gauze and Absorbent Wool, and, with the exception of Grey Gauze, the cost has been more.

The Hospital was, however, able to take advantage of a favourable offer of Bandage Cloth when considering Tenders in October last.

Lint shows the same quantity purchased at considerably less cost.

Drugs—

The Anæsthetics, Cocaine, Nitrous Oxide Gas and Novocaine show large amounts purchased; Anæsthetic Ether is a little less.

More Antiseptics have been used, therefore the cost has been greater.

Many Drugs show large amounts purchased, especially Potassium Iodide and Bromide, Methylated Spirit, Sugar, Quinine Salts, Honey, Glycerine and Anhydrous Glucose.

Pharmaceutical Laboratory—

In many instances there is an increase in the quantities manufactured, especially Ampoules filled Cataplasma Kaolin, Liquorice Lozenges, Magnesia and Petroleum Emulsion, Syrups, Lincti and Glycerines. The principle syrups used are Lemon Syrup, Compound Syrup of Iron Phosphate, Syrup of Iron Phosphate with Quinine and Strychnine, Syrup of Virginian Prune and Syrup of Codeine Phosphate.

Dispensary Staff—

Mr. Ardley, Galenical Assistant, resigned to take an appointment with a firm of manufacturing chemists. No other changes have taken place, and I have again to express my acknowledgement to all for their willing service to the Hospital.

E. WILLIAMSON,
Pharmacist.

Dental Society's Annual Dinner.

ON Saturday, March 17th, Guy's men made their annual pilgrimage to the Empire Suite at the Trocadero Restaurant to attend the 29th Annual Dinner of the Dental Society, when 297 members were present. That genial atmosphere which prevails when Guy's men meet was intensified by the appearance of so many old faces and, surely most of all, by the most charming personality of Mr. M. F. Hopson. The evening was the occasion of a double event for those Englishmen fresh from the spectacle of their victory at Twickenham the same afternoon.

This year, bowing to public opinion, we returned again to the custom of allowing an entertainer to interrupt our continuous tongue-wagging for a few minutes, but less grudgingly than usual, judging by the applause which the genial and rotund Mr. Norman Long provoked.

The astounding amount of work required to make this dinner such a success is little realised by the average member. The Secretary, Mr. C. A. Archer, is to be heartily congratulated on his most able management.

Mr. A. Bulleid, the President, was in the Chair and proposed the health of H.M. the King, followed by that of H.M. the Queen, H.R.H. the Prince of Wales and other members of the Royal Family.

Mr. A. T. Pitts then proposed the toast of Guy's Hospital and, in his speech which followed, must surely have made us blush out of modesty. He deplored the fact that he was not a Guy's man, but said he had endeavoured to remedy this by knowing as many Guy's men as possible. He reminded us of such names as Bell and Salter, who brought Guy's fame long before the founding of the Dental School, and the ability of our modern staff, as shown by their brilliant publications, most especially that invaluable and renowned little book *Dowsett's Notes*.

Mr. H. L. Eason, in replying to the toast of Guy's Hospital, demurred that he should really give way to the Treasurer, who was present at the dinner, but that, having been put on his feet to make a speech, he would be delighted to reply to the toast. This he proceeded to do in his usual easy and proficient manner.

Mr. Norman Long then beamed at us from his seat at the piano and gave us an excellent clinical picture of a Scotsman who suffered from neuritis in both arms so that he could just raise his glass to his mouth, but could not quite reach his pockets.

Mr. F. N. Doubleday proposed the toast of the visitors and said what woe there would be if any unwary visitor attempted to pass our Head Porter, Whitbread the Lesser (in deference to our Treasurer) without producing his ticket.

Mr. C. H. Halkins then responded to the toast and told us how he admired our esprit de corps, and how well Guy's men acquitted themselves at examination time. He then told us a story of a man who showed an astounding ignorance of his subject, and the examiners were keen to discover how it was that he knew so little. When they

questioned him the man said: "Well, sir, you see, I thought the examination was to-morrow!"

Mr. M. Hopson rose amid deafening applause to propose the toast of the Chairman, and told us a delightful story of the natives of a Devonshire fishing village who removed the danger notice from their steep cliff because nobody ever fell over it. Mr. Hopson then described "Little Bulleid" as a typical Guy's man, steeped in its traditions, and how he found a wife at Guy's and, finally, his service in the Artists' Rifles and later in the R.A.M.C. during the war.

Mr. Bulleid replied to this toast, thanking Mr. Hopson for his kindness and saying that of all the blows that the Dental School had had, Mr. Hopson's retirement was the greatest. He expected that after all Mr. Hopson had said about him that Professor Eyre would have a red carpet laid down on the steps of the Bacteriological Department and a brass band to play him in at his arrival on Monday.

He said how well he had been backed up during the season by the Secretary, Mr. C. A. W. Archer, and his Committee, and how the numerical strength of the meetings had increased.

Mr. C. A. W. Archer, the last speaker of the evening, then rose amid applause and denied, as past Secretaries have always done, the colossal amount of work they always do. He thanked the Treasurer, Mr. C. L. Stevens, and the Committee for their help in connection with the dinner, and Mr. Jones for his services as pianist during the various toasts, also Mr. Tomlyn on his excellent posters.

So ended—for some—a very pleasant evening, and we went home, declaiming as usual, that this must be the best dinner of our 29.

Correspondence.

Dr. Beddard's Going-off Dinner.

DEAR SIR,—Following the suggestion made at Dr. Beddard's going-off dinner we should like to announce that a fund has now been started to provide a permanent memorial to Dr. Beddard.

It is felt that his original work and services in physiology and medicine at Guy's deserve some such recognition.

The form of the memorial cannot be decided until the amount collected is known, but it will probably take the shape of an annual prize for some subject connected with Clinical Medicine.

It is proposed to close this Fund in six weeks time at the latest, and we would be pleased if all who wish to contribute would send their donations to Messrs. E. C. Warner, M. McC. Baird or E. T. Clifton at Guy's as soon as possible.

Yours faithfully,

E. T. CLIFTON.

Guy's Hospital,
London, S.E.1.
March 20th, 1928.

Adrian Stokes' Memorial Fund.

DEAR SIR,—The Rockefeller Foundation has contributed the sum of £2,000 to the Adrian Stokes' Memorial Fund, which has now reached a total of £2,969 2*s*. 6*d*. We are anxious to raise this total at least to £3,000, and I feel sure that such a sum is within our reach. Any sum, however small, will be gratefully received and, in order to simplify matters for those who would prefer to remain anonymous, contributions may be placed in the collecting boxes which are now installed in the Dining Room of the College and in the Medical School Office. The list will remain open for some time yet, and all contributions sent to me will be gratefully acknowledged.

Yours faithfully,

T. B. JOHNSTON,
Dean.

Medical School,
Guy's Hospital,
London Bridge, S.E.1.
March 19th, 1928.

Reviews.

Lamb's Diseases of the Throat, Nose and Ear. By F. SYDENHAM. 5th Edition. Published by Messrs. Baillière, Tindall & Cox. Pp. 447. *Price* 12*s*. 6*d*. *net*.

THE desire, we suppose, of the average dresser in the Ear, Nose and Throat Department is to absorb enough knowledge of the speciality to diagnose and deal with the commoner conditions met with in general practice. This small book, written for the general practitioner, and not for the specialist, covers enough ground for his purpose without pretending to be an exhaustive text book.

The methods of examination are described at length and with many practical hints for overcoming difficulties. The normal and pathological

appearances which the dresser will see at Out-Patients are clearly described, but one misses the more extensive illustrations of the larger books.

A practical account is given of tonsillectomy, submucous resection, operations on the mastoid, etc., which, on the whole, follows the practice at Guy's. We can hardly agree with the writer, however, in his recommendation of tonsil removal in children without anæsthesia. Ill effects from short ethyl chloride anæsthesia are extremely rare, and we cannot believe that an anæsthetic does not lessen the mental shock to the patient.

A limited number of actual cases are described, and we would wish that the size of the book allowed for more. The book is written in an unusually readable style, and the beginner will find it an unexpectedly interesting introduction to the subject.

Sport.

Association.

London University Cup Final.

Guy's v. Goldsmith's College.

HAVING beaten Battersea Polytechnic in the Semi-Final, we again travelled down to Mitcham on March 14th to meet Goldsmith's College in the Final. For this game, in the absence of W. D. P. Evans owing to ill-health, Lomax played in goal; also Blaikley, being out of the team with an injured ankle, O'Meara reappeared in the side after some three years absence. O'Meara played at centre half, while Smallshaw moved to left half.

On a ground that was splendidly dry Guy's kicked off down a slight slope. The forwards went away well and within a few minutes Small cut in from the wing and took a shot at goal, but it travelled just outside the far post. Goldsmith's kept the play in mid-field for some time, until Fitzgerald was sent away on the right wing. Ashling, who was well up, took his centre cleanly, but the goalkeeper was able to save quite comfortably. From the goal kick Goldsmith's took the ball into our half, to bustle it into the penalty area, whence, with Lomax unsighted, the ball was gently placed into the left-hand corner of the goal. Soon afterwards their centre forward put a good shot just over the bar. This was followed by a second score. Their inside left shot and hit the base of the upright. Lomax had got the goal covered, but the ball, rebounding, struck the back of his leg and rolled into the net. This was bad luck on Lomax.

Two goals down Guy's set to work to get on terms again, but our opponents were playing a very good spoiling game; they were quick on the ball and very good with heir heads. However, some good play was followed by Small, now playing at inside, instead of outside, left getting in a shot which was partially cleared, only for Ashling to whip it up and score with a hard shot, making the half time score Goldsmith's 2, Guy's 1.

During this half the defence had played well, especially the backs, who, if occasionally both caught too far up the field, were most assiduous in covering one another, and really rendered yeoman service in relieving pressure in front of goal. Among the forwards Cantor was the only one who was really playing up to form; he played his usual tireless game, showing excellent ball control, and, in dropping back to assist the defence, showed splendid judgment. Unfortunately, the forward line as a whole was unable to reproduce the mechanically accurate passing and swift attacking they showed in the Semi-Final. Perhaps the credit was due to the opposition.

The second half was much like the first. Ashling early tried for the equalising goal without success, and then Goldsmith's replied after 15 minutes by scoring a third. Lomax failed to clear from a cross shot and from the ensuing melee the ball crossed the goal line. In spite of repeated efforts and some good play among the half backs, notably Smallshaw, our score remained unaltered until, for the last five minutes, O'Meara moved to inside left, while Smallshaw went to centre half and Fulford to left half, whereupon several thrustful movements followed. Ashling failed to score with two more shots, and then a shot from Small was intercepted in the goal mouth by their right back and O'Meara, who was on the spot in no time, scored. The remaining two minutes of play was uneventful. So ended a very enjoyable game, though, as often happens in cup finals, no superb football was produced.

Guy's Team—R. F. Lomax; G. B. Brummitt, D. E. C. Robertson; J. Gray, D. J. P. O'Meara, D. B. Smallshaw (capt.); J. P. Fitzgerald, A. M. Cantor, L. Ashling, E. Fulford, J. M. Small.

Hockey.

Guy's *v.* Ley's School.

THIS match, one of our most pleasant, was played at Cambridge on Wednesday, March 7th. Guy's were unable to field a full team, but managed to gain a victory by 6–2.

From the bully-off Leys pressed and appeared as though they would score, but our backs were sound and tackled well. Leys, however, were not to be done and continued to press, but, finally,

the ball was sent to the Guy's forwards, who took it to the home circle and, from a melee in front of goal, Curtis scored. Guy's quickly pressed again and forced a corner, from which Peatfield scored. Leys forced several corners, but were unable to score, but they finally opened their score by a good shot from the inside right.

Guy's forced another corner, from which Peatfield again scored. The School could not do much against our backs, of whom Carrell played an excellent game. Half time 3–1.

From the restart Leys pressed, and after some midfield play the home inside left scored. Stung by this Guy's attacked strongly, but the home backs were very safe. However, Lyne managed to score a very good goal on his own. Archer took the next from a rebound off the goalpost from a shot by Curtis, who managed to add another as the whistle blew for " no side."

Schofield deserves a few words of praise for his excellent goalkeeping, and also Carrell for his good play at back.

Guy's Team—J. B. Schofield ; F. R. Hayward, G. N. Carrell ; F. N. Corfe, F. E. Camps, T. E. Mitchell ; J. T. Edmonds, A. H. Curtis, C. A. W. Archer, S. R. Peatfield, H. O. Lyne.

Golfing Society.

Monthly Spoons.

THESE are competed for on the course of the Sidcup Golf Club on the first Wednesday of every month, Medal and Bogey rounds played alternately. Any member of the Clubs' Union who has a handicap may enter. Those without handicaps may get these by submitting two cards to the Committee.

Results of Monthly Competitions this season :—

November, 1927 — *Medal*, E. C. Duffett, 94—13=81.

December, 1927—*Bogey*, A. J. D. Gibbings, (12), 5 down.

January, 1928—*Medal*. Not held owing to the state of the course.

February, 1928—*Bogey*, E. C. Duffett, 3 down.

Staff Cup, 1927.

THE final was played over 36 holes on January 26th, 1928, A. J. D. Gibbings beating W. J. Cotton by 7 and 6. Gibbings, who was in receipt of 4 strokes in each round, was always the steadier player, and considering the bad weather conditions produced some very fine golf. Starting out 4 down after lunch Cotton got back to 2 down in 3 holes, but from then onward there was little doubt of the result, and after being dormy 7 Gibbings secured a half at the long 12th to win the match.

Guy's *v.* R.A.M.C.

PLAYED at West Hill on February 15th. The weather was perfect and the course in excellent condition.

RESULTS

Singles

Guy's		*R.A.M.C.*	
L. W. Cann	0	Major Mitchell (5&4)	1
K. Whitworth	0	Col. Cochrane (3 & 2)	1
A. J. D. Gibbings	0	Col. Leaver (3 & 2)	1
L. B. Langmead	0	Major Jackson (2 & 1)	1
E. C. Duffett (4 & 3)	1	Major Wilson	0
S. H. Croot	0	Major Strachan (7 & 6)	1
J. Croot (2 up)	1	Lieut.-Col. Easton	0
W. B. Clegg	0	Lieut.-Col. Davidson (7 & 6)	1
	2		6

Foursomes

Cann and Whitworth	0	Mitchell and Strachan (2 & 1)	1
Langmead & Gibbings	0	Jackson and Leaver (3 & 1)	1
S. H. Croot & Duffett	0	Cochrane & Wilson (5 & 3)	1
J. Croot & Clegg (3 & 2)	1	Easton and Davidson	0
	1		3

Guy's were thus beaten by 9 matches to 3.

Papers by Guy's Men.

F. Bocquet Bull, L.D.S., M.R.C.S., L.R.C.P. General Hypertrophy, *Brit. Dent. Jour.*, xlix, 1928, 247.

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Change of Address.

Gerald Robinson, 4, The Crescent, Plymouth.

Dr. T. F. Saunders, 84, Rose Hill Street, Derby. 'Phone : 321.

Norman Burgess, M.A., M.B., M.R.C.S., Hereford House, Clifton Park, Bristol. 'Phone : Bristol 3085.

Appointment.

Norman Burgess, M.A., M.B., M.R.C.P. Appointed Chief Police Surgeon, City and County of Bristol.

EDS. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

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RHEUMATISM is at last being taken seriously. Until quite recently the various forms of "rheumatism"—not including rheumatic fever—such as fibrositis, myositis and osteoarthritis were regarded in one of two ways. If one of these diagnoses was levelled at a patient either the patient was labelled as incurable and therefore unworthy of further attention, or the diagnostician was confessing himself unable to make a correct diagnosis. In other words, the thing was either a tragedy or a myth. Hospital patients suffering from one of these diagnoses would wander from department to department at Out-Patients, getting no better and losing all interest in life while gaining unhealthy interest in themselves. "Its the rheumatics, doctor," they would say resignedly when they arrived to receive their bottles of medicine regularly each week. In their inter-departmental pilgrimages they were as the cards in certain venomous card games, in which each player passes on his "dud" cards to his neighbour—face downwards and disguised. Particularly was it the hospital class that suffered, as any form of treatment that might alleviate the suffering and disability in any way was not within its reach.

Now, however, we see a glimmer of light on the rheumatic horizon. Steps are being taken to do something about this social scourge. To two steps in particular—strides, in fact—we would draw attention. One is the announcement of a conference on rheumatic diseases to be held at Bath on May 10th and 11th. The President of the Conference is to be Sir George Newman, the Chief Medical Officer of the Ministry of Health, and the programme of the Conference is crowded with names illustrious in the medical world. In fact, our one regret is that the names are so numerous and so illustrious that the humble subject of the Conference may be overlooked. However, we hope that something of real practical help may come out of the discussion. Three sessions will be held, dealing with Social Aspects, Causation and Treatment respectively.

The other and very virile sign of life over this question is the appointment by the Red Cross of a Committee, under the chairmanship of Sir Arthur Stanley, to establish clinics round London, where treatment may be obtained by the working man for these rheumatic complaints, which are extremely prevalent among industrial workers, causing untold loss of health, time and money. So, while the rich man may go to Bath, the poor man may now go to Barking. The question still remains: Will either get well?

THE Duchess of York, President of the Ladies' Association, paid an informal visit to the Hospital on Tuesday, March 27th. Accompanied by the Matron, several members of the Ladies' Association and a large section of the local populace, the Duchess visited some of the wards and the Massage Department, and afterwads, in the Nurses' Home, inspected an exhibition of needle work and clothes provided by the Ladies' Association for the use of patients.

OUR heartiest congratulations to the following on being appointed Clinicals: Messrs. F. G. Booker, T. O. Garland, E. L. Graff, R. L. Harward, W. H. Miller and G. N. Wood.

We should like to congratulate also Mr. J. B. Robinson on winning the British Medical Association Essay Prize, open to final year students of Guy's and the London. The subject of the Essay, which we hope to publish shortly, was "What are the Evidences of Heart Failure?"

The Hospital Hockey Team completed a brilliant second half of their season with a splendid victory over St. Thomas's in the final tie at Richmond. They deserve congratulation on having filled in some measure the unfortunate gap left in the Smoking Room showcase by the absence of the Rugger Cup from its usual resting place.

We hear that next season will compel them to find a new ground, and that in some respects a move from their present quarters, long discussed but never actually embarked upon, may prove to be a distinct advantage. Apparently the arrangement of fixtures with first-class sides has been distinctly hampered in the past by the very primitive nature of the dressing accommodation at Elmers End. We offer them our best wishes for a successful outcome during the next few months of the necessarily difficult search for a new and better ground more worthy of the playing capabilities of the team.

We should like to congratulate Mr. C. F. Cosin on being awarded the Golding-Bird Medal in Bacteriology.

We regret to have to record the death of Dr. Francis Barclay Willmer Phillips, Medical Officer of Health for the Borough of Bedford, who died on Friday, March 23rd. The late Dr. Phillips held house appointments at Guy's in the 'eighties, and went to practise in Bedford 40 years ago.

Obituary.

GERALD SICHEL, F.R.C.S., L.R.C.P.

GERALD SICHEL, who died suddenly at his home, The Vine House, Sevenoaks, on February 29th last, was born at Bradford in 1867 and educated at the Whitgift School, Croydon, and University College, London. He entered Guy's Hospital in 1887 and qualified in 1892, and two years later took the Fellowship of the Royal College of Surgeons.

He was a good sprinter, and besides winning the 100 yards at Guy's he represented the United Hospitals on a few occasions.

After leaving Guy's he held an appointment at Colchester for a short time and, entering for the Navy in 1896, he passed in at the head of the list, and his high surgical qualifications secured for him posts at Haslar and Malta. He retired from the Navy in 1903 and took the newly-created post of Surgeon in Charge of the Actinotherapeutic Department at Guy's Hospital for a short time, but the call of operative surgery induced him to give up this appointment and settle in Sevenoaks in 1907, where the local hospital offered scope for his skill and experience.

In 1914, on the outbreak of war, he again essayed the Navy, but his age barred him. In April, 1915, he joined the R.A.M.C., and was given the post of Head Surgeon at the Lord Derby Hospital at Warrington. In March, 1918, he was sent to Wimereux, France (near Boulogne) as Surgeon Specialist, and in November of the same year was posted to the Military Hospital at Beltinge, near Herne Bay.

He returned to his practice in Sevenoaks in 1919, where he continued to work up to the day of his death. Although he had recently suffered a sharp attack of pneumonia, followed by very painful sciatica, he only took a few days at Southsea, and was about to return to his work. Although far from well he visited some of his patients on the day of his death. He held the posts of Surgeon to the Sevenoaks and Holmesdale and Hip Hospitals, and was Consulting Surgeon to the Sevenoaks School.

Gerald Sichel had an artistic temperament and was a painter of considerable natural ability. He had quite a remarkable gift with his pencil for caricature, which he exercised greatly during his studentship at Guy's, and during the whole of this time he was a constant contributor to the Gazette with caricatures of contemporary men and of passing events which were of a high order of merit and worthy of the pages of any humorous paper.

Looking back amongst the Gazette's of that period one recognises what a valuable asset he was to the lighter side of our journal and what a genius he had for picking out and accentuating the humorous aspects of his subjects.

The best cartoon he ever did was, in the writer's opinion, the arrival of the Guy's football team at

Bradford in the season 1887–88, in which every member of the team is portrayed to the life with exquisite emphasis of their funny points.

Another one nearly as good was the drawing of "Betts," the attendant in the Museum, which was a priceless portraiture of one of the best liked officials at Guy's.

For years after he left he sent sketches from various parts of the world, but never were they so intimate and mirthful as when he was living amongst us.

His gift of caricature was a pictorial expression of his keen sense of humour, which always bubbled up and contributed so greatly to the attraction he exercised over his contemporaries.

Simple minded and kind hearted, with abundant sympathy, he had yet a rigid sense of duty which made him hyper-conscientious. He had a character to make him loved by all who knew him well, and which precluded his ever making an enemy in his life.

A man of high professional ability and of high ethical ideals, he never missed an opportunity of doing a good turn or of saying a kind word whenever there was an opportunity of doing so, which was in effect from one year's end to the other. He embodied the best principles of the ideal medical practitioner—a careful, conscientious man of science, to be relied on to give unsparingly of his best to all under his care, a stout, kind friend to be steadfast through thick and through thin, an upright man who had sympathy for all and sundry and yet was capable through his sense of humour of throwing back to the fun and frolic of a boy.

Such was Gerald Sichel when the writer first knew him as a medical student 40 years ago, and such he remained unchanged throughout the years of his later strenuous life of unceasing endeavour up to the day when he died, trying to do his job in sickness and in pain. He has left a host of friends who feel their lives have been the better for having known him and had some share in his life of unostentatious merit and charm.

A. A.

Ununited Fractures.

A Clinical Lecture by Mr. E. G. Slesinger, on March 13th, 1928.

GENTLEMEN,—Fortunately, non-union in fractures only occurs with quite moderate frequency in civil cases, though it occurred far more commonly among the gunshot wounds of the war. When it does occur, however, it presents many interesting problems of causation and treatment.

The distinction between delayed union and non-union is really one of degree only, and it is merely a convenient convention which fixes a year as the time when a case of delayed union becomes one of non-union. Though the humerus is perhaps the most frequently involved single bone, non-union may occur in any of the long bones, and it is often most difficult to treat, especially in the lower limb, with its all-important weight-bearing function. Many views have been put forward from time to time to account for this condition, and there can be no doubt that many and varying causes are responsible in different cases, but, curiously enough, the commonest of all usually receives the least attention, namely, improper or inadequate treatment of the original fracture. That may well be because patients with ununited fractures but rarely return to the surgeon who originally treated them, with the result that he

remains of the belief that such cases do not follow on his particular methods of treatment.

There is only one method of ensuring union in, at any rate the great majority of recent simple fractures, and that is to replace the fractured ends into perfect apposition, and to maintain them there until union has occurred. If that cannot be brought about by such non-operative measures as manipulation and plaster, then operation must be undertaken and the bony alignment restored and, if necessary, kept up by some internal splint, such as a steel plate. In such cases gross obstacles to the restoration of alignment, such as interposed muscle or a rotated comminuted fragment, may be found, which would inevitably have led to non-union had they been allowed to remain. Nevertheless, such a counsel of perfection is often not possible, and sometimes not even desirable, as, for example, in the upper limb, where function is the great factor of importance as opposed to weight-bearing in the lower limb. Again, in compound fractures, of course, such methods of operative fixation are definitely contra-indicated except in very exceptional circumstances. In such cases and more rarely, but nevertheless definitely, in cases treated by the most perfect measures, non-union does occur, and these are the cases whose condition I wish to consider with you to-day.

Pathologically, ununited fractures fall into four main groups :—

(1) *Cases in which there is a gross loss of part of the whole bone and periosteum.*

Here some factor has prevented the two bone ends from contracting into apposition. The most usual cause is an uninjured fellow bone, as in the leg or forearm, or the application of some method of extension treatment. In such a case the bone ends gradually become smoothed off and rounded, and the whole bone becomes lighter and softer.

(2) *Cases in which fibrous tissue unites the bone ends, but no proper union occurs, although callus may be present in greater or lesser amounts.*

In such cases there may have originally been an oblique or spiral fracture, with possibly the intervention between the ends of a flap of fascia or periosteum, and such cases of fibrous union also seem prone to occur if the fracture has been splinted for an unduly long period. This type of non-union is very common in the patella if treated without operation, as aponeurosis nearly always curls in between the fragments.

(3) *Cases in which a pseudo-arthrosis, or false joint, occurs at the site of the fracture.*

In such cases there is great hypertrophy of unhealthy elements of repair with non-union of the fracture. The actual bone ends become smoothed off and rounded, and there is a pseudo-capsule formed by the condensed fibrous tissue round the fractured ends, and there may be even an actual synovial cavity filled with glairy synovial fluid. This type of non-union is particularly prone to occur in the humerus, and is said to result from free movement being permitted at the seat of fracture. I think, however, that there is little evidence to support this view. I believe that faulty metabolism is the cause rather than any mechanical factor.

(4) *Cases in which the bone ends are inactive, and in which no attempt at repair occurs at all.*

This type occurs most frequently in septic compound fractures, and the bone ends become rounded off and eburnated with no attempt at callus formation.

In spite of the large amount of work that has to be done on the subject, we are still comparatively ignorant of the actual details of repair in bone. There can be no doubt that a fracture results in the production of granulation tissue, just as does any other inflammation resulting from trauma, but it is in the details of the subsequent ossification of this granulation tissue to produce callus that information is needed. According to what is perhaps the most generally held view, this classification is the function of a specific cell, the osteoblast, set free as a result of the absorption of bone following the injury from the open ends of the bone and from the osteoblastic cells of the periosteum. The position of the osteoblast as a specified cell is, however, strongly challenged by many observers, and the work of Wells, Barille and others suggests that there is no such specific cell, but that ossification depends upon precipitation in the granulation tissues as a result of changes in their CO_2 content of a complex salt, calcium carbono-phosphate circulating in the blood, and which, after precipitation, is converted into calcium carbonate and tertiary calcium phosphate. This view appears to me to be the more reasonable and the one most in accord with the facts as far as we know them.

This being so, it follows that non-union of a fracture may depend either upon local or upon general causes, that is to say, deficiency of the material necessary for proper ossification. Of the local causes primary loss of substance is undoubtedly the most important, especially in gunshot wounds. This may result from the missile, and in that case is unavoidable, but far too often it results from removal by the surgeon of so-called loose fragments of bone.

A great deal of nonsense is written about the blood supply of bone. The nutrient artery is un-

doubtedly important, but an equal or even greater importance attaches to the vessels reaching the bone from the attachments of the soft parts. *Any fragment of bone not completely cut off from its soft part attachments is capable of living,* and by carefully conserving such fragments many cases of non-union could be avoided. Dead bone can be readily seen by X-rays in a month, and it is far better to leave all doubtful fragments rather than to risk taking away what may be a valuable means of repair. In cases, however, where loss of substance has occurred or has been produced, non-union is very apt to follow if the presence of a neighbouring bone—*i.e.*, the fibula in the leg—prevents contraction, and consequent apposition of the bone ends.

A second important local cause of non-union is gross displacement, in which case either the interposition of fascia or muscle may be the actual cause of non-union, or the ends may be too far separated for the granulation tissue of repair to bridge the gap. Such a condition should, of course, never be allowed to occur, since the essential condition in the treatment of any fracture should be apposition of the fractured ends.

The influence of sepsis upon union is somewhat curious. As a rule, provided adequate draining is maintained, it does not interfere with proper repair of the bone, but in rare cases necrosis of the fractured ends does do so. This is, however, of very rare occurrence, and the removal of bone ends in compound fractures, in an endeavour to ensure rapid healing is, I think, strongly to be deprecated.

In certain cases of compound fracture, where the infection is subacute, changes of the nature of sclerosis occur extensively in the bone ends, and in such cases non-union is apt to occur from absence of adequate granulation tissue, resulting in the type of non-union of group 4. Actually, I think, we can fairly say that sepsis alone is of small importance in the production of non-union, provided adequate drainage is ensured, and that on the whole the subacute type of infection is more dangerous in this respect than the acute.

If one asks many students the commonest cause of non-union in fractures, someone is pretty sure to say " undue mobility at the site of the fracture during healing," and I feel that that belief is in part responsible for the fact that splints are so frequently kept on far longer than they need be, and often with the most disastrous consequences. I am strongly of the opinion that mobility at the site of fracture is never of itself the cause of non-union, provided only that it is not sufficient to bury one or other bone end in the soft parts.

A very good example of the way in which union will occur in spite of mobility occurred in a patient of mine in 1925. A man of 50 was knocked down by a motor car and sustained a badly comminuted fracture of the tibia and fibula. I operated on him and plated the fracture, securing very satisfactory restoration of the bone with two plates. Some 10 days later the patient, who was suffering from a good deal of worry and overwork, became acutely maniacal and so violent that he had to be transferred to an asylum. His fighting and kicking were so violent that it was impossible to keep his splints on, and very shortly he broke the plates loose, and the bone was freely mobile at the seat of fracture. One plate threatened to come through the skin, and I removed it at the asylum. His violent mania continued for weeks, during which time he was kicking the broken leg about freely, but it finally subsided. I saw him some months later, on his discharge from the asylum, with the fracture still not united, and I advised a walking calliper splint for a time, thinking that some operation for non-union would be necessary later. However, within two months firm bony union in good position took place with the remaining plate still in the leg, but no longer attached to bone. That, I think, is an extreme, but not unusual, experience, and therefore I feel that mobility need not be feared as a cause of non-union.

In regard to the general causes of non-union a great deal remains to be learned, but sufficient facts are available to make the question one of great interest. The work of McCollum, Simmonds, Shipley and Park on experimental rickets shows that in animals three dietary factors may be at fault, namely, the calcium concentration, the phosphorous concentration, or the anti-ricketic vitamin, and it has further been shown that natural or artificial sunlight may replace the anti-ricketic vitamin. Other observers confirm these vlews, and, further, it is well known that osteotomy, if done during the active state of rickets, is frequently followed by non-union. These facts led Petersen recently to study the metabolic changes in cases of ununited fracture and their treatment by dietary measures, and his results are very striking.

He found that in the majority of non-union cases studied a deficiency of blood calcium or phosphorus existed.

The normal in cases of healing fracture appears to be, in the case of calcium, 10 mgs. per 100 c.c. ; in that of phosphorus 3.8 mgs. per 100 c.c. ; so that the combined calcium $\times$ phosphorus figure may be expressed as 38.

In the cases examined by Petersen, which were well controlled by a series of normal fractures, a deficiency in this calcium-phosphorus multiple was found in 11 out of 17 cases of non-union.

His conclusions led him to believe that no union takes place if the calcium-phosphorus multiple is below 30, little healing between 30 and 35, and active healing between 35 and 40.

It is of interest to note that in the cases with a low calcium no callus is formed, whereas in those with a low phosphorus callus is formed, although no union takes place.

Quite striking results are reported by Petersen from dietary measures based on these findings, the patients being put on a high protein diet, with liver—3 ounces—three times a week, butter milk 500 c.c., calcium carbonate 3 gms., cod liver oil 1 dr., and daily fruit and raw vegetables. Applications of the mercury vapour lamp were sometimes given in lieu of cod liver oil, and a phosphorus pill was used in the cases with a low phosphorous figure. Under this treatment the calcium-phosphorus multiple was observed to rise speedily, usually in from 3 to 4 weeks, and when a figure of from 40 to 45 was reached union occurred. This work is of great importance, but, of course, requires confirmation. If, however, further experiment bears it out it affords a most valuable means of estimating and controlling the ossification of fractures.

In regard to the local treatment of non-union, the most important thing is to obviate it by proper treatment of the original fracture, and, especially in compound cases, by conserving every possible fragment of bone. When, however, you are faced with an actual case of non-union, the only possible local treatment is by operation, and even that leaves much to be desired. Such things as passive congestion, massage, heat, etc., or even needling of the bone ends may be tried, but are practically always useless. The results of operation will largely depend upon whether or not the original fracture was, or was not, septic. If it was septic, the prognosis, even after the most skilfully performed operation, is apt to be most unsatisfactory, and the surgery of fractures holds among its many disappointments few that are so heartbreaking as some of these cases. The risk is the lighting up of the original sepsis, a risk which is not only real but which time does not minimise, as organisms lie dormant in such cases for years, only to light up and spoil the most carefully planned technique in many instances. In some of these cases, however, if the principles I will mention have been adhered to, union may take place in spite of sepsis, but even then the surgeon too frequently receives quite unmerited blame from the patient and sometimes, I am sorry to say, form his colleagues for infection which came from within and not from without.

In the operative treatment of ununited fractures there is one principle that needs to be borne in mind, which, I think, is essential and, I would almost add, the only essential to a successful result, and that is the removal of all scar tissue. The scar tissue in the soft parts, and particularly in the bone ends, must be freely and thoroughly removed, often a proceeding of very great difficulty. In cases where the scarring of the skin and soft parts is extensive, it is often wise to excise this tissue at a preliminary operation, using, if need be, a pedicle graft to fill in the gap. At the second operation the scar tissue of the bone ends must be removed, and I cannot stress the importance of this too much. The surgeon must not rest content until he has reached freely porous bleeding bone in every part of the surface. That, I feel sure, is the essential of the operation. The remaining part of it is to secure apposition of the fragments and their immobilisation until union occurs. The methods by which that may be obtained are numerous, and vary with the ingenuity of the surgeon, but I cannot help feeling that too much regard is often paid to these methods and too little to the all-important question of free removal of scar tissue. If there is no gross loss of substance the bones may be brought into apposition either by stepping their ends, by means of a sliding graft, by intra-medullary pegs or by plating. Some surgeons object to plating in cases of ununited fractures, but personally I have seen equally satisfactory results follow any of these methods, only provided that the scar tissue is thoroughly removed. Where there is gross loss of substance some form of bone graft to bridge the gap is, of course, essential. The questions of the type of graft to be used, and the methods to be employed in its fixation, are problems of operative surgery to which there are nearly as many answers as there are bone surgeons, and which are therefore matters that I do not propose to discuss to-day.

Finally, I would warn you against incriminating the metabolic processes of the patient too readily in ununited fractures. They are occasionally guilty, it is true, but the habitual criminal is the local cause, and the commonest local cause, apart from loss of substance, is the interposition of soft parts, owing to imperfect reduction of the fracture in the first place.

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Extracts from a Diary of a Voyage to the East as a Ship's Surgeon.

(*Continued*)

November 13th

WE reached Hong Kong at about noon this day. Hong Kong is rightly called the Jewel of the East. We sighted a largish island at about 10.30 a.m., a barren mountain sticking out of the sea and looking like four or five prehistoric monsters lying in the water with their backs projecting.

To the east of this was the island of Wag Sam, with a lighthouse on it.

Everywhere on the sea were junks with ochred sails, high platform sterns and low bows—a very beautiful effect. Earlier in the morning the first indication that we were approaching the land was the appearance of these craft, tinged pink by the dawn.

Passing the islands mentioned above, we approached the west entrance to Hong Kong Harbour, and soon could see the houses on the Peak, the highest point of the island, which must be about 5,000–6,000 feet, and heavily wooded with pine trees and other varieties. When the British took over this island it was, so it is said, as barren as the first island we passed in the morning. Now it is a garden.

We rounded the west end of the island, where we picked up the pilot, who took us between the mainland and the small Green Island—the channel leading to the harbour. It was surprising to see the number of ships in this busy port, and among them several destroyers and auxillary Naval ships flying the Blue Ensign. The aeroplane ship *Argus* was anchored not far from where we berthed—a strange looking vessel with no deck projections except two wireless masts at the edge on either side.

We berthed alongside a wooden jetty coming out from the shore right up to which is deep water.

The harbour swarms with a variety of Chinese crafts, from junks to sampans, all of which, it is said, are the permanent homes of the crews. A small sampan, about 15 feet long and with a flimsy mat covering over its middle, serves as a home for a family of six or seven, not including ducks and dogs. In this they live from birth to death.

After lunch the time till 3 p.m. was occupied in getting H—— to the Government Civil Hospital.

He was first seen by the Port doctor, a Chinaman, who came on to the ship at leisure at about 2.15. He apparently is the Admitting Officer. I accompanied the patient to the Hospital, which has a very pleasant situation on the side of the hill, but badly needs a coat of paint. I suppose, like all hospitals, its funds are meagre.

Having deposited the patient, the Captain, a man named —— (a solicitor from Shanghai) and myself took a car and drove over the top of the island by way of a magnificent road, often carved through granite, to Repulse Bay on the other side. On the brow of the hill one got a splendid view of the harbour and the town below, with the mainland across the straits. On passing over to the other side the small fishing village of Aberdeen came into view, with its crush of sampans, in a small bay. Just below was the placid water of Repulse Bay, and away to the south the many islands of the Archipelago, all very beautiful in the evening sun.

We descended to the hotel just on the Bay, where we had tea on a wide verandah. Inside, in a large well-appointed hall, people danced to the latest London airs. After tea we bathed from one of the many palm leaf huts that the local people build on the shore.

After the bathe we returned to the hotel for a " stingha," and there met Commander B——, who is stationed at Hong Kong, and is in command of a submarine. Later we had dinner with this sailor, who is an exceedingly bright lad, with an astounding capacity for imbibing liquid of various sorts and for telling yarns of alarming " tallness," such as of his endeavour to sell his submarine to a wealthy Japanese for half-a-crown.

When it was dark we returned by motor bus, and from the top of the mountain got a superb picture of Hong Kong and the shipping down

below. A scene like a great jewel of a thousand golden gems on a black velvet background.

We dropped down into the town and wandered through the streets, coloured vividly with Chinese signs in the street lights. Here a small Chinese child, like the dolls that one used to find in Christmas stockings, would look out with dark round eyes beneath a fringe of straight black hair, and there a coolie would trot along with a pole over the shoulder supporting front and back a basket of paw paws, or pomelos.

We dined at the Hong Kong Hotel, where we were joined by Commander B—— and L——. After dinner we returned to the Club to be entertained by representatives of the British Navy.

The next morning we set out for Formosa at about 9 a.m., going through the east entrance into a blue sea and cool breeze that flung the crests of the waves from our bows into a spray that broke the sunlight into transient rainbows.

Great purple and brown winged butterflies flapped lazily across our decks from time to time, while high above a large eagle hawk soared in a cloudless sky.

November 15th

Formosa came into sight this morning at 10 a.m., when we could see very high mountains above a mass of clouds, the island being very mountainous, many peaks rising above 5,000 and some even as high as 14,000.

The port of Takao is entered through a very narrow channel between two heads, the south a great deal higher than the left and surmounted by a lighthouse. On arriving we had to drop anchor outside till a pilot arrived—and the Japanese are in no hurry. About 15 minutes after arrival he put out from the shore, and 10 minutes later there came the doctor and a policeman, also one or two plain clothes detectives, all very solemn and conscientious. The doctor produced several forms and then conducted an examination of all passengers and crew, which consisted of counting them, which things having been done the Yellow Jack was hauled down and we steamed slowly through into the harbour. I took a few snapshots as we entered. This was noticed by the plain clothes detective and my camera was confiscated later. They developed my film, however, and, cutting out the local pictures, returned the rest with the camera to me.

Going out it was easy to take precisely the same pictures.

The wharves are as unsightly as any in the world, but the harbour was sailed by many pleasant junks and sampans of vivid colouring. Behind the wharves, on the north bank, lay the town, while stretching south for seven miles and parallel to the coast is a shallow lagoon.

In the afternoon we made a party to go ashore and bathe in the sea from the north side. The town itself is far from attractive and produces a whitish dust in abundance, which is not very good for the eyes or throat, but the town is very neatly laid out and one sees most of the Japanese women in the kimono, with the brilliantly coloured sash and satchel-like attachment behind which is said to be worn to hide the lumbo-gluteal curve. It is strange to remember that there was a fashion in England to accentuate this line a few decades ago.

We had an exceedingly pleasant afternoon ashore. We took a motor and, driving through the town, passed over the shoulder of the promontory that forms the north head of the harbour entrance to the beach. En route we saw on the right, and higher up the hill, the residence which is reserved for the Imperial family when it or one of its members visits the island. It is quite a small house, with a pleasant but unpretentious garden round it.

Down the slope of the hill to the sea is an experimental arboretum, with many young trees, each labelled in Latin and Japanese. I am told that all Japanese in the schools are taught English, so the English characters of the Latin names would not be wasted. There is only one European in this town—Brunner Mond's representative—nevertheless, even the Neisan at the place where we had dinner, (or natively "Skiaki,") was able to tell us the price in English.

Next to the beach was a Japanese tea house, with low tables about one foot high, and matting, and a small house for the proprietors behind, all delightfully clean. The bathroom of the house—and these people were quite of the peasant class—was beautifully kept. The bath was a cement basin about 6 feet in circumference and 3 feet deep, with beautiful clear spring water laid on.

In the evening L—— and I sought a real native restaurant and discovered, through the Agent, a genuine place in a back street. On entering we found a small courtyard with flowering shrubs. Round this were arranged the rooms, opening on to a verandah, which looked out on to the central court.

Before we stepped on to the verandah we had to remove our shoes. This is a universal Japanese custom, and they look with horror on our filthy habit of taking the dust of the street into our dwellings.

We were conducted to our room by a smiling Neisan in a dark blue kimono and bare footed, with feet as clean as any lady's hands and as well cared for. This lassie combines the function of hostess and waitress. She had a gay and most infectious laugh, and seemed thoroughly to enjoy

the business of attending to us. We took our seats on grass cushions next to a table about 18 inches high. In the centre of the table was a small perforated clay bowl, let through into a box, which could be closed or opened at its side. Into the bowl was placed a dozen or so pieces of glowing charcoal, and over this was set a brass dish, the lassie erstwhile making pleasant though unintelligible Japanese conversation.

Then commenced the feast with three small pieces of toasted cheese. While we ate this our Naishan busied herself with the main part of the meal. First, she placed into the brass dish two small pieces of bacon, then some gelatinous stuff in long strings, which I believe is a sea weed. After that came the beef in very thin slices and then a variety of leeks and some green leaves, which I could not identify. When this was frizzling most appetisingly she added about 3 tablespoonsful of sugar. For drink we had sake in small porcelain bowls, and poured from a container like a teapot. Next was brought for each a raw egg, to which was added soya sauce, and the whole taken like an oyster.

When the contents of the brass pan were thoroughly cooked—and the process of watching and smelling the cooking was very excellent stimulant to the psychic juice of Pavlov—a small wooden tub, scrupulously clean, was brought in, and contained the most delicious rice I have ever eaten. The Naishan daintily ladled out a goodly portion into bowls, which she handed to us with a bow and a merry laugh. On to the rice we took the meat from the brass dish. This manœuvre, with chop-sticks, was not too easy, though feeding with them was by no means as difficult as one would expect.

Half way through the meal a pot of weak tea was brought in. This was very good stuff, despite the absence of sugar and milk.

The reclining position became uncomfortable half way through the feast, and by the end one was very conscious of all the bony points of the region involved. This was the only objection to an excellent meal and perhaps the absence of a sweet at the end.

In due course we were presented with the bill, which, lying flat on my tummy, I paid, laying the coins out on the floor. The Neisan on receiving them bowed low in her kneeling position and accompanied us afterwards to the front door, where she again bowed us a good night, and then ran in with a very attractively merry laugh.

November 16th

After coming aboard last night we met the only European who lives in the town. He is a Jew, by the name of H——, and represents Brunner Mond & Co. He has just arrived, his predecessor having gone off his head, the result of complete isolation from Europeans. The new man was born and bred in Kobe, and knows the Japanese inside out, speaking their language perfectly—another example of the adaptability of the Hebrew.

H—— took us round the town in a car this morning to see the sights of the town, which are meagre.

November 23rd

We left Formosa at about lunch time, and two days later sailed out of summer into autumn, and at Shanghai met typical grey skies of an English winter.

We reached Shanghai on November 23rd. The morning before we arrived we passed through an archipelago of islands. These are little more than projecting rocks and inhabited by low grade fisher folk, who will murder for 5 dollars. Recently one of the ships of this line struck one of these islands and had to keep off the fishers with guns till a destroyer arrived. About six hours out the sea suddenly presented a yellowish muddy colour —the waters of the Yangtse. This indicates to some extent the size of the river. The sea far and wide was covered with junks.

At about noon we picked up the pilot from a small pilot steamer that the Shanghai pilots own. These people, I believe, earn something like £7,000 a year. They form a company, and to become a pilot in the combination it is necessary to put up a fair amount of capital, about £1,500.

The passage up the Yangtse is by no means beautiful. At the beginning it is impossible to see either bank. Later they become dimly visible as very low-lying ground. About 15 miles up we turned up the Wang Poo, the tributary on which Shanghai stands, and quite soon the scene became very like that going up the Thames—factory chimneys, gasworks, trees, on flat country very like Essex, preceding the actual town.

The shipping is very numerous, particularly small craft. In fact, the river is distinctly busier in appearance than the Thames, which was an astonishing realisation.

As we got into the heart of the town we passed several large liners: *Empress of Asia*, two large French ships of the Messagerie Maritime Line, the fast Japanese mail boat, *Shanghai Maru*, and several small destroyers under the American ensign. We berthed at the Taiping Dock at about 6 p.m.

After dinner the second officer, junior second and I took a walk through the town, which was surprisingly un-Oriental in appearance. Except for the multitudes of Chinese, the rickshaws in

the streets and the wares in the smaller shops in the side streets one might have been in any large European town. The Foochow road offered a more Eastern aspect, chiefly by reason of the gay banners which each shop has hanging out above the entrance. Of course, Shanghai is by no means representative of China. One must visit Peking, I believe, to get the true Chinese atmosphere. The business quarter, with its fine buildings, are such as one might see in any other business area of, say, Plymouth.

The Bund is characteristic and the scheme whereby all the business houses and banks overlook at the river is a good sight.

The Nanking Road is the shopping centre, and here are every variety of goods to be found. The side streets from this thoroughfare are rather quaint and hung with a profusion of banners, which, in the strong electric light, give a very festive appearance.

The next day I went to lunch at the Shanghai Club with L——. The Long Bar at this place is packed just before lunch by about 500 men, all anxious for appetisers.

In the afternoon we visited the Recreation Ground, where several games of Rugby and Soccer were being played, also hockey, chiefly by Army and Naval teams.

After watching Shanghai *v.* The Army we went to the Country Club by way of the Bubbling Well Road. The Bubbling Well is an exudation of water and gas of some sort, not malodorous, and this is considered sacred by the Chinese, who indicate their veneration by spitting into it. It is now cemented in, and at each corner stands a bronze monster. Near by is a temple, which, unfortunately, we had no time to visit.

The next day I again took lunch with L——. motoring out first to see the Laird, a local personality of some importance—a rotund Scot with a gruff voice, which he uses to dominate his Chinese household, who seem to regard him with great

affection, as, I believe, despite his voice he treats them with fairness and kindness.

Shanghai is an example of the effort of combined International activity, as the town—or, at least, the International Settlement—is under the control of representatives from all the nations. They seem to work together very satisfactorily.

After lunch we took a car down to the Bund by way of the Peking Road, in which are second-hand Chinese shops selling a most incredible variety of things. I believe there is very little that one cannot buy there. All the débris of the world seems to be collected in one road.

When the European Powers first obtained the concession of the site of Shanghai it was nothing more than a mud flat. The amount of energy that must have been expended in building what is now a very fine modern city is tremendous. As well as energy, the capital expenditure must have been great, so one can well sympathise with the feeling against the Chinese, who desire to turn out the white man.

Things seem much more settled now, however, and in the town itself there is no ill feeling towards the Europeans. In the native quarter there is yet a certain amount of danger, and Europeans do not venture there much.

The last of the passengers left us here.

November 24th

We arrived at Nagasaki this morning at about 7 a.m. A perfectly beautiful morning, with the freshness of autumn in the air. The entrance, among many wooded mountainous islands, is one of the prettiest we have so far seen. At first light their edges silhouetted against the primrose of the East, while their bases were veiled by the grey morning mists, was a sight of great beauty. We dropped anchor just outside the harbour, which is guarded by two heads. Here the pilot and doctor came aboard, and after a muster of the crew for medical inspection we steamed slowly

into the anchorage, passing between the two heads, which are covered with trees and " brocaded with the foliage of autumn," to use the phrase coined by a Japanese author.

I have never seen such rich shades of red as a variety of Japanese ash (from which, I believe, the material for a lacquer is obtained) shows at this time of the year.

The day was perfect, and in the afternoon I went ashore to walk round the main part of the town, my first view of Japan at close quarters.

The town surrounds three-quarters of the bay which forms the harbour and extends half way up the surrounding mountains. The north side is almost entirely devoted to ship building, and from this quarter comes the incessant hammering of rivetting of the hulls of a merchantman and a destroyer that are in the process of construction.

The south side is the area of the business of the town. Along the front are several substantial buildings, and behind them are the flimsy typical Japanese houses with grey tiled roofs, and spotlessly clean inside. A great part of the fronts of the houses are often moveable and consist of sliding screens of small wooden lattice in squares, the whole covered with paper. Some are double storied, but more often they have only a ground floor.

The shops are almost all open in front, with a step leading up to the matted floor. Shoes, or the Japanese footwear, are left on this step, and one goes in either in stockinged feet or puts on the grass slippers provided.

All the shops hang out brilliant banners (as do the Chinese), so that the whole line presents a very gaudy scene. Everywhere are bicycles, and these, as the darkness sets in, all carry Japanese lanterns, with a very pleasing effect, combined with the lights of the shops playing on the banners stirring in the breeze.

In the evening I went with A—— (second officer) to see a friend of his, a German, who teaches at the High School. This man and his wife were overjoyed to see us, as there are only about five or six European families in the place, and not altogether compatible.

November 25th

To-day has been as good as yesterday as far as weather is concerned. So I took a walk through the town and up to the top of one of the smaller peaks behind the town, passing on the way a small shrine with an entrance through a characteristic arch with cylindrical uprights, slightly inclined towards one another, and two cross pieces, the lower straight and the second with ends slightly curved upwards.

The dwellings up the slopes of the mountain were those of the lowest classes and packed very

closely together and perched on ledges in all sorts of unexpected places. Higher up still are the burying grounds, not enclosed, except some of the more pretentious tombs. A large number of the graves have small bowls of sake placed at the foot of the headstone—a gift, no doubt, to the venerable ancestor.

At this port we unloaded 80 miles of telephone cable.

November 25th

Passing out of Nagasaki was a most enjoyable experience. We weighed anchor at about 9 p.m. The evening was brilliant with stars, and not unpleasantly cold. While the stillness was such that sitting on the forepart of the boat deck one could hear every word of the pilot's instructions, and the repetition by the quartermaster at the wheel. To left and right the heads of the entrance stood out against the stars in a dark purple sky.

Just outside the harbour we passed through a fishing fleet of considerable size. Each boat carried an acetylene flare, so that the horizon before we reached the boats had a string of golden stars along it.

The next morning, again brilliantly fine, we steamed into Moji, on the Straits of Shimonoseki, which divide the mainland from the South Island. On the opposite side, on the mainland, is the ancient town of Shimonoseki, where Japanese customs are still preserved and no one speaks English.

At the entrance we passed a most charming little island, terraced from the beach up to a fir wood that crested it. Nestling round a small yellow-sanded bay with fishing craft drawn up to the sand was a tiny grey-tiled village. The sea was a pale green, very like the colour common along the South Coast of England, and set off the scene delightfully.

At Moji the manager of one of the big coasting concerns invited the Captain, the Chief Engineer and myself to dinner at the Tea House. No

Japanese entertains at home, as the wife is instructed only in the domestic duties and any form of frivolity is discouraged, hence the Geisha girl, who is really a professional entertainer and much more often than not far from of easy virtue.

At 6 o'clock the Captain and I went ashore, as the Chief Engineer said he could not abide Japanese food and refused to come. We walked first through streets of altogether modern appearance and then narrow ways lit by Japanese lanterns and decked with banners, and came to a very fine building, standing well out of the smaller houses round it. Here we were met by the proprietress, who indicated that our shoes should be removed and provided slippers, which being done we were taken to our host, who awaited us in a large room. Here we removed our slippers before entering and were received most solemnly and ceremoniously by our host, who then introduced us

to the Geisha girls, of whom there were four, dressed in very beautiful silk kimonos of subdued shades, and set off by brilliant sashes, but very tastefully coloured. Their hair was done in a most complicated style and, roughly, divided into four main divisions. Two projections, one at either side, one in the middle in front and a "bun" behind. Their feet were encased in the national sort of foot glove, with a separate compartment for the great toe. They were very cheery little souls (not more than 4 feet 9 inches high) and greeted us very prettily with bows.

We were then asked whether we would take a bath. Not wanting to miss anything we agreed, though it is rumoured that in Japan the female attendants come into the bathroom at the appropriate moment and dry one.

We were shown to a large bathroom with a square bath in one corner, in which was about 3 feet of water warmed by a copper box containing burning charcoal, stoked from below, so that one's bath gets hotter the longer one is in it, till boiling point I take it, which the Japanese enjoy greatly and seem capable of standing temperatures far beyond European endurance.

Having washed thoroughly and luxuriously we arrayed ourselves in very fine kimonos, supplied by the Tea House. These were of the best silk, with a dark brown and dark grey striped pattern. Under the kimono we wore—as is the custom—shirts and under pants only—which felt a little inadequate—but we survived!

The room in which we took food was very plainly decorated, but with excellent taste. On the floor were cushioned mats covering the whole space. The walls were panelled with grey and above the main panels was a large simple pine needle pattern in smaller panels, about 18 inches by 6 inches.

In an alcove at one side of the room there stood on a bronze table a vase of very gracefully arranged chrysanthemums and some evergreen.

In a corner was a small ebony table with two or three boxes of Japanese games, while in the centre was a most perfect red lacquer table, standing about 18 inches high and about 6 feet long by 3 feet wide. Round it were arranged silk cushions and elbow rests and a jar of smouldering charcoal for warmth.

The only wall decorations consisted of a Japanese phrase written on a large white plaque placed above the alcove and meaning: "This is the place of sociability, love and joy," and a displayed scroll with a growing bamboo depicted on it and a quotation from one of the Japanese poets, an interpretation of which meant something like: "Away from the jostling crowds, in a pleasant house, deep in a beautiful garden, remote from a road."

We were shown our seats by our host, who was consistently solemn throughout the dinner. The arrangement at table is different from the European. Our host sat at the head; at his right hand was a Geisha, also at his left. Next on his right was a Japanese gentleman guest and then another Geisha. The Captain, the chief guest, sat opposite the Japanese gentleman, while I sat at the end opposite the host. By this arrangement we were each between two Giesha's.

The Geishas eat nothing, but keep up a light conversation all the time, which had, of course, to be interpreted as did our talk.

They were greatly amused by our efforts with chop sticks, and we were given lessons in the correct manipulation. It is surprising what one can do with these tools after a little practice.

The food is all served in bowls and of many different shapes, representing birds, flowers and fish, and all very daintily coloured.

The variety of dishes was beyond count, starting with soup, which we drank from the bowls direct; next a stew of meat and vegetables and snipe, which was extremely difficult to manage with chopsticks. Then came crabs and more vegetables in different bowls. Most of the vegetables I did not recognise, but there was a goodly amount of turnip. Finally, after several more concoctions that baffle description, came a large bowl of rice, which is habitually eaten with seaweed, pressed into thin wafers. This stuff is utterly disgusting to European taste. I was warned against it by the Captain, but on its arrival my ministering Geisha so eagerly seized on a piece and, wrapping rice in its malodorous centre, popped it into my mouth that I hadn't the heart to spit it out, but gulped it down with sake.

Sake is served warm in small porcelain jars and poured into tiny bowls. Apparently it is against custom to pour out the drink for one's self. The Geisha does that and she will drink some herself, though she does not eat except some fruit, perhaps, at the end of the meal. The guest rinses the small sake bowl in a lacquered basin of water, placed for the purpose in the middle of the table, and presents it to the Geisha, who bows and holds it for him to pour out a libation for her. Her toast is "Bansai," which means "10,000 years to you." However, quite a number these days say "Cheeril!"

The conversation was necessarily light. We were asked to guess the ages of all the guests in turn, which was rather un-European and a trifle disconcerting. However, it broke the ice and gave occasion for much banter; the Geishas were all young and ranged from 21 to 30 years. Our host was 35, the Captain vowed that he was 84, while I plunked for 21, both of which ages caused much laughter.

The next topic was palmistry, at which they were not very good. I made an attempt at predicting the future of the girl who looked after me, and produced a story of fortune in the next year or so, a death of a very distant relative who would bequeath a house on the top of a hill, a slight illness quite soon, all of which left her unmoved. I then foretold that she would marry next year a man with long whiskers and a beard. This completely upset her; she rocked with laughter and protested violently against the whiskers. It is strange that even in Japan the modern girl dislikes the whiskers.

We then exchanged names. Mine was easy to catch. The Captain's, G———, was a little more difficult. Their names were rather quaint. The brightest's name was appropriately Shining Leaf. The one who played the Samisen later was "Three Times Happy," while the girl next to me rejoiced in the appellation of "Three Beans." There must have been some mistake in translation here, I think, or some significance to beans that we did not understand—possibly it meant the bean flower, or sweet pea.

After the food was eaten the floor was cleared for dancing. "Three Times Happy"—or, perhaps better, "Thrice Happy"—produced a "Samisen," which is, I should imagine from its frequency all over Japan, the Japanese national musical instrument. It is shaped rather like a banjo with a square sounding box, and it is played with a large ivory plectrum, about half the size of a ping-pong bat. The strings, of which there are three, are of silk. The music is rather monotonous, but as soon as our host saw the Samisen he showed signs of great pleasure and commenced jerking his body rhythmically from side to side, which he did at intervals the rest of the evening.

The first dance was a fan dance by Three Beans (or "Old Bean," as the Captain modified it). This consisted chiefly of a series of poses to music rather than a dance as we know it. The movements were all very slow.

The next was a Japanese country dance, in which we all participated, everybody lining up at the side of the room, remote from the Samisen. To the music of three-four time we took three steps forward, dragging first one foot then the other, then three back, dragging the other foot; then three quick steps forward with a complete turn at the last, three quick steps back and another turn brought us to the commencement once more.

After this there was a pause for "hot toddy," which, I take it, is a foreign importation. Fortified with this, Shining Leaf gave another dance, which was followed by a second country dance and song. The company stood in a circle and as soon as the music started turned left and glided round half the circle, making complicated movements with the hands. At a given word in the song all faced the centre and made gestures with the hands in time to the music and song and finished the movement with a clap of the hands. This ended the phase and we began it all over again. The Captain thoroughly enjoyed it all and I may say I did too, in spite of a strong sense of Gilbertian farce to which the solemnity of the Japanese members of the party added strongly.

We finished the evening by playing several games of skill, such as a modified egg-and-spoon race, with small ivory lozenges for eggs and teaspoons.

At 11 o'clock our trousers and coats were brought in, and into these we were helped by the ladies, " Aertex " being the sole barrier between the European conception of complete indecency.

November 25th

There was an incident of some degree of excitement as we approached Kobe this morning. It was a beautiful morning, but misty in patches. Out of one of these patches there came a motor barge, which mistook the signal we gave as to the direction we proposed to turn and, though by the time we reached it our engines were going full speed astern, we hit her broadside on.

I was awakened by excited yells just outside my porthole, and jumped out to see the barge scraping all alongside our side.

We stopped and lowered a boat, which took the pilot across to estimate the damage, which was very small, and apparently he was able to square the skipper without recourse to the law of the land.

We reached Kobe at about 9 a.m., and the day continued to be as fine as the morning promised.

There is a big harbour with breakwaters enclosing a very large area in which the shipping swarms. At the west side of the harbour is a ship-building yard in which at the present time a cruiser is being constructed. The town lies along the foot of a range of mountains, well covered with trees, and, as one of the inhabitants told me, are used as " the Park " of the place, the Japanese delighting in climbing all over the different peaks. Kobe itself is a large town of several hundreds of thousands of inhabitants, and along the foreshore are many fine modern buildings—rather too tall, it may be, in view of the possibilities of earthquakes in this part of the world.

In the afternoon the Captain, the Chief Engineer and myself went ashore to buy a tea set. At least, the Chief had that object in view, and he made it an excuse to visit every shop that we saw of any interest. The Captain has the Japanese mentality thoroughly estimated, so it was most amusing. We would enter, say, a shop devoted to the sale of lacquer work and each would bow low and say how delighted we were to see them. To which the owner of the shop would bow again. Then, talking banteringly the whole time, the Captain would induce him to show us all his best wares, in doing which their owner seemed to rejoice. We would then visit a silk shop and array each other in magnificent kimonos, to the tremendous amusement of the shop keeper, and so, in buying the tea set, we visited about half-a-dozen china shops, and saw some really delightful pottery, especially some very fine Satsuma bowls, with brown chrysanthemum designs, which were really glorious bits of work.

We had tea at the Tor Hotel, at the skirt of the mountains behind the town. This hotel is surrounded by a spacious and well laid out garden and must be extremely attractive in the spring time, when all the cherry blossoms are out.

After tea we descended into the town to stroll along the Motomache, the chief shopping street in Kobe. Walking through the streets is more of an adventure than doing similarly in Paris. Cars dash about without seemingly adhering to any rules of the road. Bicycles race everywhere, and huge trams, more like trains, crash along the streets at almost express speed, blowing sirens to notify their advent. However, we survived without loss of limb or life.

The Motomache was at one time lighted from end to end, about $1\frac{1}{2}$ miles, by a myriad of Japanese lanterns. These have now, however, been replaced by semi-arches of electric lamps, to the detraction of much of its beauty, I should imagine, though the street is now better lighted. In this street every imaginable article can be bought, and it is astonishing to see some quite unpretentious shop of two storeys with priceless articles of beauty in its windows. This is more astonishing in the less important streets, where an almost squalid building will house exquisite and valuable treasures of all sorts.

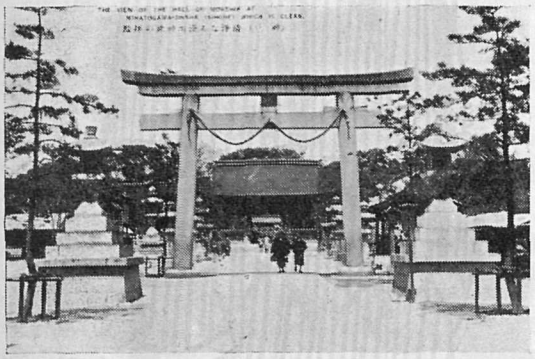
Before dinner we visited a dance club, the Dia Club, that the Captain discovered. Here, for an entrance fee of 1 yen 50 sen, we were allowed upstairs into a room where a perfect floor and latest jazz music was supplied. For 1 yen 50 sen more we obtained a book of 10 tickets, which entitled men to dance with the bevy of Japanese beauty that acted as dancing partners. These were very good looking lassies in tastefully coloured kimonos. and they danced perfectly, though wearing the Japanese footwear, which consists of a block of wood bevelled off anteriorly and lacquered on the superior surface. This is kept on the foot by two

silken thongs, passing from one point up between the big toe and the remainder. One passing backwards and inwards to the edge of the upper surface while the other passes backwards and downwards to lateral edge.

After using all our tickets we found the Oriental Hotel, where we dined luxuriously.

November 26th

I went ashore this morning to exercise the legs on dry land and found a Shinto shrine which was of passing interest. The Shinto religion, which with Buddhaism are the two State recognised creeds of



Japan, is rather vague and indefined in its tenets. and lays down no moral laws, which are left to the chivalric traditions of the Sumurai or upper class Japanese. To get to the system of Shintoism is therefore difficult, but, as I understand it, all things that afford mental satisfaction, and probably material, are worthy of veneration, and man is essentially divine, his sojourn on earth being a temporary incident among possibilities of contamination, as, for instance, the circumstances of a smartly dressed woman walking through a muddy thoroughfare. Any dirt (evil) which might fall on her is deplorable and distasteful, but no fault of hers, and does not detract from the intrinsic smartness of the woman. Nor is it without remedy, and there will come a time when she reaches the safe refuge of her home. So with man he will eventually reach the next world, where he will be free, inevitably, of all possible contamination with evil, which possibilities at the present time are merely unfortunate. This is an extremely cheerful outlook, and so their shrines reflect their religious ideas, being pleasant places in groves, or on the hillsides or on the mountain tops, always with a vista of the characteristic arches leading to an enclosed space containing trees, fountains, ponds of water lilies, and in the centre a large and very tastefully designed shrine, with open sides. Round about it are smaller shrines, dedicated, I take it, to particular manifestations of the essential divinity pervading everything. For instance, a seamstress will drop into a particular box before a shrine a few grains of rice to express her thankfulness for the goodness of the needle, not a sacrifice to the needle, but to the good principle of the needle. So a small shrine in a secluded grove is dedicated to the spirit of æsthetic satisfaction that the grove causes.

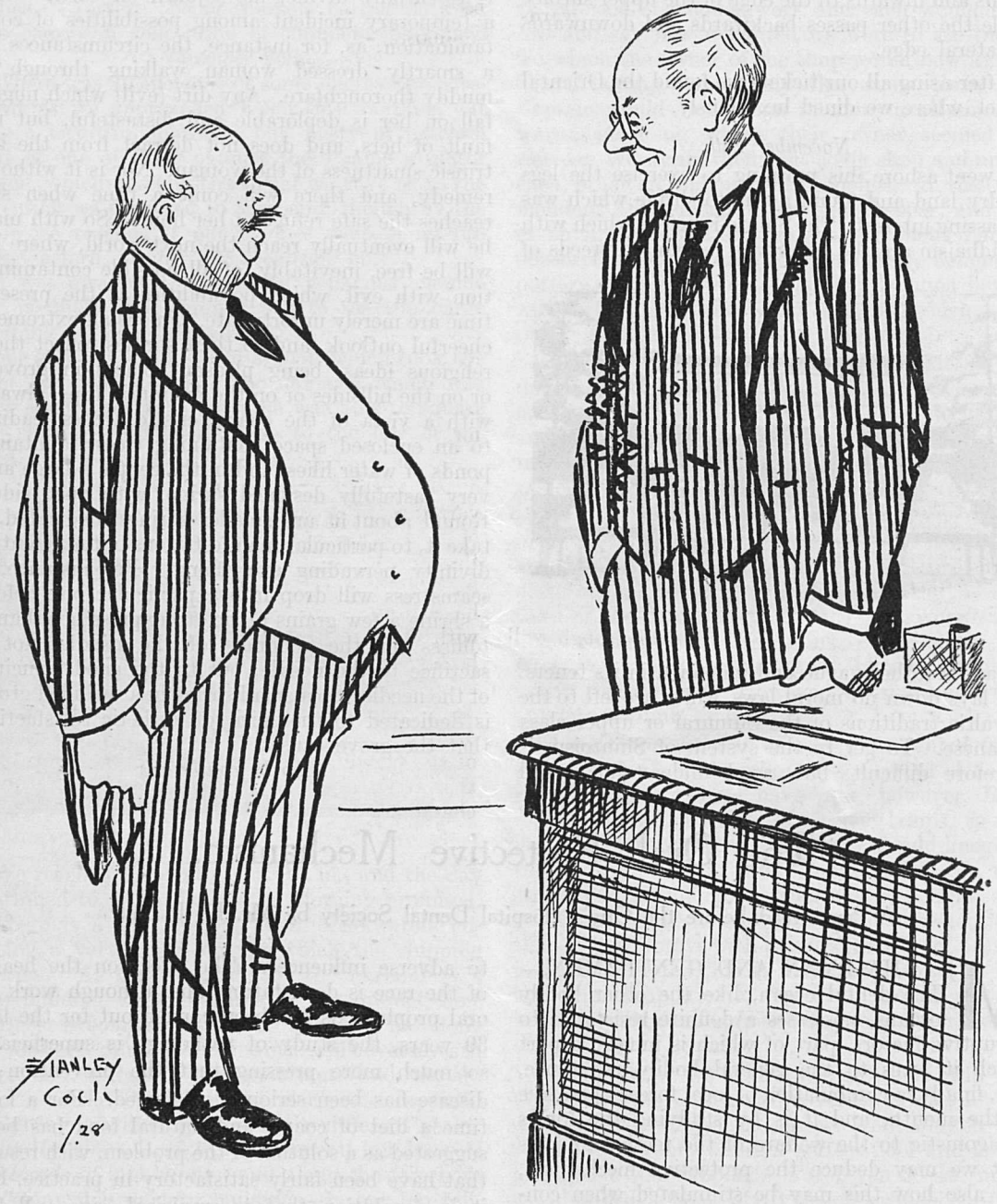
(*To be continued*)

The Oral Protective Mechanism.

A Paper read before the Guy's Hospital Dental Society by Mr. D. J. Bull.

MR. CHAIRMAN AND GENTLEMEN,—The dental organ, like the other bodily organs, possesses a definite resistance to disruptive factors, part of which is innate, a part which it owes to the general bodily resistance, and, finally, a combination of local forces operative in the mouth, and it is by studying the forces antagonistic to the welfare of the teeth and jaws that we may deduce the protective mechanism, and also how this may be stimulated when conditions have varied from the normal.

Both caries and pyorrhœa alveolaris have a profound effect on the bodily health, but the first deserves much closer attention, since it is essentially a disease of childhood and adolescence, and exerts its pernicious effect most fully at a time when the developing body is most susceptible to adverse influences. The effect on the health of the race is devastating, and although work on oral prophylaxis has been carried out for the last 30 years, the study of pathology is superficially so much more pressing that the prevention of disease has been seriously neglected. For a long time a diet of coarse and natural food has been suggested as a solution of the problem, with results that have been fairly satisfactory in practice, but it is a solution that is empirical, since all the conditions governing immunity have not been provided; so many cases of relative immunity and susceptibility exist together under similar conditions of diet that the protective mechanism must be expressed in its fullest terms before it can be applied with accuracy to every case.



"Beyond the diet, I think it would be a good thing to take up golf."

"Golf! no good, doctor, have tried it. When I can see the ball I can't hit it and when I hit the ball I can't see it!"

The mechanism of decay has been more or less ascertained. A comparison of the primitive or immune mouth with the susceptible mouth has shown that in the majority of cases dental trouble varies as the degree of stasis in the mouth, just as stagnation is the cause of so much trouble in other parts of the body, and since primitive mouths do suffer under civilised conditions of diet, while the latter has throughout history always been associated with dental trouble, it is this diet which is now held responsible for initiating decay. This, of course, does not take into account the protective forces, which may or may not vary.

Of the many theories put forward to account for caries, the one that now receives general support is Miller's chemico-parasitic theory that the stagnation of carbohydrate débris and solution in apposition to the teeth leads to its fermentation by micro-organisms, with the production of organic acids, and the subsequent solution of the inorganic salts of the enamel. The protective mechanism then must include those forces that prevent stagnation on the enamel surface, together with the vital factor of the resistance of the enamel surface itself. Obviously, since the attachments of the teeth are soft tissues, the factor of vital resistance is here the more important, although the degree of stasis in the gingival trough will still provide the agents that attack the gum, periodontal membrane and bone. Malic acid is now suggested as chief decalcifying agent, since this acid is produced by the bacillus acidophilus odontoliticus, which is considered responsible for primary enamel decay. Malic and lactic acids are identical in their reactions, so that the experiments with lactic acid in the ætiology of caries will still hold when applied to malic acid; caries has been produced artificially on teeth in vitro by the action of a mixture of saliva and carbohydrates, and extremely dilute solutions of lactic acid can decalcify enamel and render its surface opaque.

Although the mouth swarms with bacteria, these cannot be held primarily responsible for decay, since the flora of an immune mouth is identical with that of a susceptible one, as Pickerill found in his investigations on the cause of immunity in the Maoris. In addition the bacterial plaques on enamel are found on a sound surface as well as being frequently absent over a carious one. It is probable, however, that the balance of protein liquefying bacteria over acid producers may be an important ætiological factor, since the decomposition of the proteins produces alkaline substances, which eliminates acids as they are formed.

It has been suggested that caries may be initiated by the acidity of a localised exudate from the gingivæ, when the latter are undergoing some low grade inflammation, and indicators have been made to demonstrate this, but as this only occurs at the gingival margin, and even then only in those cases where the vital circulation of the soft tissues has been affected by a traumatic bite, the causes are too restricted to apply to a general theory of caries causation.

The first obvious defence against stasis is the shape of the dental organ itself. The apposition of the teeth, the planes presented by their rounded arches, their smoothness and their articulating surfaces, as well as the continuity of the adjacent soft tissues, all offer little lodgement to débris, while any irregularity is nearly always followed by food packing and its sequelæ. The forces that mould the dental arch may be summed up, finally, as two—heredity, which tends to produce good jaws and teeth, and environment, which may act for or against.

In addition, spontaneous variations from the dental normal may occur quite as frequently as variations elsewhere, and the widespread incidence of caries may be in part accounted for by the fact that these variations are now no longer eliminated by either natural or sexual selection; these forces have been modified by the industrial revolution with its substitution of mechanical labour for bodily effort, and the increase in dental trouble in most countries seems to date from this event. This suggests an alternative, that the gradual decay of dental function has led to the weakening of the hereditary forces that form the organ, but this would imply the transmission of an acquired characteristic which is contrary to the modern scientific opinion; it yet remains a possibility. However, evidence shows that, apart from variations, good teeth and jaws are in the majority of cases potential in the normal germ plasm, and that subsequent development is dependent entirely upon intrinsic and extrinsic stimuli.

Large jaws and teeth are not in themselves beneficial, it is the ratio of their sizes that matters, and the ideal dental organ under modern conditions might be much smaller than the dental average shows. It is even possible that large jaws do not in adult life possess a very great resistance to disease; they underfulfil their function and therefore cannot be adequately protected by an oral mechanism which, as we shall see, responds entirely to a functional stimulus. Although jaws do show a tendency to contract to the dental ideal, the cause of most of our dental trouble is the lack of a similar tendency on the part of the teeth. Nature's automatic remedy, the non-eruption of the superfluous teeth, is unfortunately not frequently exercised, and the natural conclusion

is that unless environmental conditions can be so changed as to give the jaws full function, the regulation of children's teeth should err on the side of extraction, expansion tending to upset the balance between the size of the organ and its protection.

The forces of environment exert an enormous influence on the jaws and teeth, possibly *in utero*, although experiments to produce caries by a diet deficiency in the maternal organism during this period have not produced uniform results. During the suckling period it is known that natural feeding acts beneficially in expanding the jaws, while the usual feeding bottle tends to contract them by inducing a negative pressure in the mouth ; finally, caries of the deciduous teeth may lead to a diminution in the natural bone growth which the developmental forces of mastication may not fully overcome.

The physiology of mastication casts an interesting light on expansion of the jaws. It is known that the growth of bones is greatly influenced by the state of the neighbouring tissues ; one can instance the inhibitive effect of tonsils and adenoids on the jaws, but it is the pull of the attached muscles that provides the true stimulus to bone growth, and it is significant that while the hard foods of primitive races exert the crushing muscles, the temporal and masseter, which anatomically expand the mandible, a civilised diet tends to a hypertrophy of the pterygoids, digastric and mylohyoid muscles, all of which contract the bone. The upper jaw is affected by the mobility of the facial muscles, but otherwise remains muscularly uninfluenced and responds to the muscular stresses of the mandible.

Hard food therefore during development is an essential stimulant to growth ; its fibrous element is useful both in automatically cleaning the mouth, and reflexly stimulating the facial muscles via the oral mucous membrane, and the masticatory muscles via the teeth themselves.

Of the purely oral forces of protection, the first passive one is the resistance of the enamel surface, since the primary carious attack takes place here. Enamels have been divided clinically into three classes : Native or immune enamel, sclerotic or the hard yellow enamel of immune European teeth, and malacotic, the soft enamel of susceptible teeth. While Black has shown that these present no differences in density or percentage of lime salts from which susceptibility could be inferred the extensive researches of Pickerill show that their physical properties are such as to allow of different resistances to decay. The surface structure when thrown into relief by graphite stain shows that the imbrication lines are always present in normal teeth ; the odontograph, which measures the width and depth of these ridges and furrows, proves that they are at a maximum in susceptible teeth, the consequently rougher surface therefore holding more fermentable débris. The instrument shows also that the enamel curvature or increase in enamel thickness from the neck of the tooth to its occlusal surface is greatest in cases of immunity ; this reduces the angle of the interdental space and lessens the amount of fermentable liquid held in surface tension.

The imbrication lines are the surface outcrop of the Striæ of Retzius, those evidences of the varying deposition of lime salts by the enamel organ, and there is a hypothesis that the ameloblasts in the course of enamel development suffer a periodical atrophy of their function by pressure transmitted from the bony walls of their crypt. Contraction of the crypt occurs owing to the diminution of the bone-forming forces, and subsequent bony pressure induces a correspondingly greater period of atrophy and a consequently larger furrow.

The enamel surface presents many pathological fissures. Mr. Malleson's sections show that while some are due to persistence of part of the enamel organ, others exist without apparent cause ; the majority, however, show infection from the surface and further penetration via the interprismatic substance. Although these fissures are found in most sound teeth, they are doubtless potential for decay when the surface enamel shows slight signs of decalcification.

The physical properties of the enamel surface vary as the three types ; all enamels are permeable from the exterior by special stains, and the depth of penetration by silver nitrate solution varies as the susceptibility. It seems also that the degree of permeability bears an inverse ratio to the length of eruption of the tooth, but while unerupted Maori and European molars stain to an equal depth, Maori enamel has become as impermeable two years after eruption as the other in 11 years, and this would indicate that new enamel possesses some porosity either physical or chemical, which is later obliterated.

The mercury pycnometer shows that not only is Maori enamel of greater density than the others, but that its density increases as the period of eruption. The hardness of the various surfaces as measured by the diamond pointed sclerometer shows that the clinical difference between hard and soft teeth is a true physical one. The enamels display the same relative resistances when subjected to weak organic acids, and quantitative estimation of the amount of calcium dissolved out by weak HCl shows that this varies as the degree of eruption and permeability. The enamel surface

is not decalcified by any salivary concentration of carbon dioxide, and since the earthy phosphates of saliva are held in solution by this gas it is possible that complete hardening of enamel is due to the dialysis of these salts through Nasmyth's membrane and their subsequent deposition in the porosities of the enamel. It may be doubted whether such a process is possible, but whatever the mechanism involved, a further sclerosing of the enamel does undoubtedly occur with time, and presumably from the external surface. Mummery, who has found the same thing to take place in the teeth of some fishes, thinks that this is possible, and there is some evidence to show that slightly decalcified teeth may be rehardened by prolonged immersion in fresh saliva.

Mr. Malleson's sections of two immune deciduous teeth show a band of highly calcified enamel on the external surface. The interprismatic substance is barely evident and the tooth is obviously highly resistant to decay ; should such an external hardening take place, the value of carbon dioxide would be evident. Immune Maori children possess a salivary acidity of CO_2 three times that of Europeans, a consequence probably of their continual muscular exercise. Saliva can, of its own accord, generate carbon dioxide, and it is the concentration of this gas in the resting stage that may govern the deposition of lime salts and the formation of tartar when the leptothrix is present as the matrix.

Mellanby has shown that susceptibility can definitely depend upon the degree of calcification of the tooth ; 1,063 deciduous teeth were examined externally and microscopically, and 89 per cent. of these showed that the incidence as well as the severity of caries varied directly as the degree of hypoplasia present, meaning, of course, that poorness of calcified structure, a microscopical hypoplasia and not the gross hypoplasia that may often show good calcification and freedom from caries. Of the 19 per cent. showing exception to the rule, 72 per cent. showed on section that the secondary dentine laid down as the result of attrition was of better structure than the poor type of tooth would have led to expect, indicating that the internal resistance of the tooth had improved after eruption ; it was found that where the normal dentine was structurally deficient corresponding faults were observed in the enamel laid down at the same time. The two tissues seem to vary coincidently in the different teeth. Now the pulp is certainly the nutrient and protective organ of the tooth. A lymph circulation has been demonstrated in the dentine, and Mummery considers that enamel is histologically within the pale of nutrition via the penetrating dentinal tubules. It is therefore quite possible that the tooth may possess an internal resistance to enamel caries. Von Beust, for instance, thought that antibodies were conveyed to the surface via the enamel canals, while there may possibly exist a translucent zone in front of advancing enamel caries as there does in dentine.

The theory of internal resistance has aroused vehement opposition, which is directed mainly against those who assert that a deficiency of essentials in the diet may lead not only to susceptibility, but to the actual generation of caries within the tooth substances without any external exciting agency.

The active external protection of the tooth is certainly essential, and the chief factor, saliva, has been carefully studied by Pickerill. Its normal secretion is reflexive and responds delicately and constantly to different stimuli in different parts of the mouth, and protection therefore depends upon the excitability and education of the reflex arc. Saliva is collected from the human subject, directly from the various ducts, and by stimuli provided by the mastication of normal foods. In each case its rate of flow is taken and quantitative analysis is made of its various constituents. The quantity of each present in the mouth per minute represents the index for that substance, indices, of course, which are merely relative and which do not represent actual quantities, while the rate of salivary flow is itself important on account of its mechanical cleansing agency. The alkalinity index is obtained using methyl orange indicator, and shows that the stimulus of the organic acids of fruits will raise the index sufficiently to keep the mouth neutral, that it remains high for a short period after eating and that salivary alkalinity during the resting stage two hours after a fruit meal is greater than when the last meal has been made up of tasteless and flavourless food ; bread and butter and biscuits, for instance, barely affect the index, while alkaline substances actually depress it ; cakes and biscuits frequently contain sodium carbonate, and thus not only provide material for rapid decay, but actually depress the protective index, for upon the alkalinity of saliva depends the rapid neutralisation of the fermented débris, and experiment has shown that dilute lactic acid will no longer decalcify teeth when mixed with saliva of a normal alkalinity.

The ptyalin index varies in much the same way ; organic acids increase it to 10 times the resting stage, while starchy foods, which need an abundant excess of ptyalin to prevent the formation of the sticky dextrin compounds, can barely affect the index. Fortunately, a mixture of the two gives

all the beneficial properties of the acid: it is notable that a tasty diet including the natural vegetable acids, even when mixed with a fair proportion of tasteless carbohydrates, tends to raise the index permanently. Muscular exercise has a lesser but similar effect, while mental exertion and excitement act as a depressant.

There seems to be a connection between the oral and alimentary secretions. A rabbit fed on soft, tasteless and neutralised food develops the advanced symptoms of alimentary stasis, gastric ulcers, etc., and it is possible that intestinal stasis in the human being may be due to another cause than to the lack of a purely local stimulus. A lowered taste sensibility, which may be caused by a neutral diet or even by the frequent incidence of a common cold, not only diminishes salivary protection, but may actually be reflected as a decreased secretory activity in the lower alimentary canal. Stasis may be induced, and the subsequent absorption of toxins has a marked effect on the teeth. Intestinal stasis seems to act as a focus for arthritic infection, and the teeth, which are true joints, may act as secondary foci of infection when their resistance is lowered by conditions in the mouth; the ultimate result is a vicious circle of alimentary stasis and infection.

The mucin of the saliva and of the oral mucous membrane is possibly a mere lubricant. It makes the teeth slippery and causes the food to cohere in a bolus; its value, however, may be artificially controlled, since organic acids precipitate it in a layer upon the teeth, where it protects not only physically but chemically by virtue of the alkaline salts it has mechanically retained. If subsequent alkalinity of saliva does not redissolve it, it undergoes a protective alkaline decomposition. Unlike mucus in the other bodily orifices, it has no antiseptic powers; in fact, experiment has not yet shown that saliva possesses any antibacterial or immune bodies, although by virtue of its suspended bacteria and their products it has marked chemiotactile properties. Dental immunity does not depend upon the mouth flora, which, in fact, exert a powerful restrictive effect on the growth of the really pathogenic organisms that are always entering the mouth.

The vigorous reactions of the primitive mouth show that the protective mechanism is so powerful that with the stimulation of a correct diet dental troubles may be greatly reduced, but for the masses of the people a correct diet is economically impossible. The price of fruit is prohibitive and the same holds with protein substances like meat and fish, and poverty forces the balance of diet in favour of the most dangerous forms of carbohydrate food.

There is, however, an article of food which can really be called Nature's toothbrush, but its cheapness possibly has not allowed it to receive adequate attention; this is the locust bean, a sweet, tasty pod which is usually only found in shops near schools. This association with children is important, since the pod is very hard and offers a peculiarly stimulating resistance to the teeth. The growing jaw of the child exhibits a craving for substances that can help it to fulfil its function, for the food that the unspoilt child likes to eat is generally good for it, and its fresh and vigorous masticatory reflexes guide it more truly than the toneless palate of the adult.

The bean has these advantages: it is sweet and tasty and much liked by children, although an acquired taste to an adult; it promotes a large salivary flow of a marked alkalinity. Its reaction is, in fact, as large as that caused by an orange, and is possibly due to the marked stimulation that its toughness gives to the teeth. There is no fermentable starch, and a certain amount of albumenaceous substance, while there is a major percentage of cellulose in a tough, fibrous form which is yet very pleasant and easy to masticate.

It is interesting to eat a sticky, starchy meal and to conclude with two or three of these beans; the teeth are scoured clean, the tone of the masticatory muscles is elevated, and the muscular mechanism of self-cleansing—a process which is nowadays frequently absent—is brought into action by the lodgment of particles of the tough brown husk in the dental interspaces. Even the space formed by recession of the gum does not escape, and the subsequent visitations of the tongue are thus automatically directed to those parts that are most in need of it. The salivary index shows a marked elevation for some little time afterwards and also in the resting stage. It leaves the teeth physiologically clean, and, after using it for two or three days, anæmic or unhealthy gums show a striking improvement in colour and texture.

What I would like to stress is not that this is the panacea for dental troubles, for a few nuts and an apple eaten after meals can accomplish nearly as much with greater benefit to nutrition, but that elementary school children, to whom these luxuries are a rarity, can derive an equal benefit at a price which is within convenient reach of the poorest. The price is so small and the benefits so marked that its properties are worth investigation.

Reviews.

Experimental Physiology. By E. SHARPEY-SCHAFER. 4th Edition. Published by Messrs. Longmans Green & Co. *Price* 6*s.*

THIS useful little book of 139 pages has now reached its fourth edition. It is essentially a guide for medical students during their elementary course of experimental physiology. For this purpose it fulfils its object, and gives a clear and fairly concise account of the course of study performed at Edinburgh University. On the whole, there is only assumed a very elementary knowledge of biology and physics, and an account is given of the necessary dissections and apparatus before each particular experiment is performed. The only exception to this is the description of the dissection of the vago-sympathetic nerves in the frog. This is usually found in practice to be a subject of considerable difficulty to the elementary student, and a more detailed description would be of value. On the whole, although a very good book from the point of view of a student who has no standard text book to follow, it is very doubtful if this book will in any way replace the popular Pembrey's *Practical Physiology* in use at Guy's.

Text Book of Anatomy and Physiology for Nurses and Masseuses. By R. H. ROBBINS, M.D., B.Ch. Published by The Scientific Press.

TO attempt, in a single volume of less than 400 pages, to describe the anatomy and physiology of the human body is a large undertaking. The author is to be congratulated on having so successfully met his difficulties. The book is intended for the use of both masseuses and those engaged in general nursing. For the former a considerable degree of detail is necessary in the description of the anatomy of bones, muscles and joints, and the space devoted to this is perhaps disproportionately large from the point of view of the nurse.

The first chapter is the least valuable. In this the chemical and physical principles underlying physiology are outlined. But if the reader is ignorant of these it is very doubtful if such a brief description as is here given will be intelligible. Next comes a useful chapter on general histology and the elementary physiology of muscle and the blood. Eight chapters are then devoted to the anatomy of the limbs and axial muscles. In the second half of the book the different systems—heart, lungs, alimentary canal, etc.—are taken in turn, and first their anatomy, then their physiology is described. This arrangement makes the book more interesting reading than when form and function are treated separately.

At the end there is a glossary which should prove of great value to those readers ignorant of the derivation and meaning of many scientific terms.

Dietetics and the Nurse. I. STEWART, S.R.N. Published by Messrs. Faber & Gwyer. *Price* 4*s.* 6*d.*

THIS book fills a long-standing gap in the library of the nurse. More than ever it is realised that diet plays a most important part in the rebuilding of a debilitated body. In Miss Stewart's book there are about 60 pages of recipes, and the rest is devoted to a lucid exposition of calorific value of foods, and vitamins and the organs concerned in their digestion and assimilation.

An important section is that devoted to diet in disease, and we have no hesitation in recommending this book for nurses studying for examinations.

Simplified Cooking and Invalid Diet. By Miss MEIGHAN. Published by Messrs. Faber & Gwyer. *Price* 2*s.* 6*d.*

SIMPLE and useful recipes for invalid diet are given in this book by a doctor's wife, and we are sure it would be a good standby to have in any house in case of illness.

Recent Advances in Anatomy. By H. WOOLLARD, M.D. Pp. vi—302. Figs. 73. Col. Plates 4. London. Published by Messrs. J. & A. Churchill, 1927. *Price* 12*s.* 6*d. net.*

THE task of determining the scope of human anatomy is a difficult one, but few will cavil at the material which the author has selected for the purpose of this book. He has limited his survey almost entirely to work carried out by the study of living material, and it is this aspect of human anatomy which is such a fascinating study. The reader will find that Professor Woollard has summarised, clearly and concisely, recent work in many different fields, and if a large proportion of the work deals with the nervous system the importance of that subject is a sufficient reason for the amount of space devoted to it. The illustrations are numerous and uniformly good, and the references given at the end of each chapter are invaluable.

The Recent Advances Series is a distinct addition to medical literature, and the present volume is one on which both the author and the publishers can be heartily congratulated.

Sport.

Rugby.

Nomads *v.* Junior Staff.

THE annual match between the Nomads and the Junior Staff was played at Honor Oak Park on Wednesday, March 21st, before a crowd which made up in quality and enthusiasm what it lacked in quantity. The game, which threatened at one time to be a draw, resulted in a hard-earned victory for the Staff by 1 goal 4 tries (17 points) to 1 goal 3 tries (14 points).

Keen regret was felt on both sides that the Dean, owing to the pressure of work—the ill-timed dates of examinations is proverbial— was unable to referee, but the Nomads were unanimous in the opinion that great as the Dean has been in past matches, his substitute on this occasion was the finest referee against whom they have ever played.

From the kick-off the Staff pack, ably led by W. D. Doherty, who also refereed, rushed the Nomads into their 25, until O. Ive eased the situation with a fine run, which nearly resulted in a try, but he was well tackled by several of the Staff. He and other members of the Nomads were given to understand before and during the game by a certain member of the Staff that their pathology " sign-ups " would be in jeopardy in the event of a Staff defeat. In spite of this the scoring was opened by Ive a few moments later with a try between the posts, Ettles adding the extra points. Ill-timed zeal on the part of the Staff caused their rush to be disallowed.

The Nomads were now hard pressed, an effort at touch finding on the part of one of their three-quarters being magnificently frustrated by the referee planting his legs in the path of the ball on its way to the touch line. This remarkable incident demoralised the Nomads, and Mackintosh burst through their defence to put Richmond in for a try, which Hogbin converted.

A keenly-contested struggle now took place, the policy adopted by both sides being " Never mind the ball, let's get on with the game ! " Small groups of men could be seen in various parts of the field settling by methods peculiar and unorthodox minor differences of opinion. The ball being found lying idle in the middle of the Soccer pitch a line-out was given and Mackintosh managed to score while nobody was looking. The kick failed.

Stung by this manœuvre the Nomads grabbed a ball from a small boy on the touch line and carried it triumphantly about the field, undaunted by cries of undignified defiance from the Staff. Eventually Ettles seized the ball with a certain amount of impatience and scrambled over the line with it, with such members of the Staff as were not appealing to the referee clinging tenaciously to his back. The kick failed, and the scores were level. An unconverted try was registered for the Staff by Scholefield, but Ive made the scores even again at 11 all.

From a drop-out Mill secured the ball and passed to Doherty, who ran a few yards, knocked on and very properly penalised himself. Half time came with no further score.

The change of ends saw both sides determined and aggressive. Attack followed attack, now from one side now from the other until the centre of the field looked like a cross between a sale in a bargain basement and 31 Aberdonians searching for a mislaid half-crown. At this juncture a Nomad, giving up in despair his search for the ball, tackled the referee with undue ferocity. Upon being assured that his leg had not been bitten, Mr. Doherty threatened the Nomads with personal assault and the game was resumed.

Ten minutes before the end 2 unconverted tries were scored for the Staff by Hogbin and Morgan, and the Nomads having replied with a fine try by de Gruchy were about to score another when the whistle was blown for time.

That the better side won there is no shadow of doubt, but it is impossible to pick out any player from either side for special mention. A list of those who played better than their fellows is appended below :—

Teams

Nomads—R. Lomax ; O. Ive, C. E. M. de Gruchy, W. M. Smith, J. Croot ; D. C. M. Ettles, S. A. Scorer ; R. L. Frost, R. W. Stephenson, J. E. Morton, E. Bellamy, A. G. Potts, J. R. F. Popplewell, A. G. Ensor, P. Lomax.

Junior Staff—A. R. Marsh ; H. Harding, L. W. Cann, J. H. Richmond, D. W. C. Northfield ; R. R. Mackintosh, T. Ryde ; W. B. Scholefield, A. E. Simpson-Smith, W. A. Mill, R. C. Brock, A. T. Fripp, R. A. P. Hogbin, T. J. Morgan, A. N. Other.

Mr. R. Thompson arrived in time for the Dinner, which was again held at the Bridge House Hotel. Mr. Doherty, in the Chair, and Mr. Thompson made an excellent combination in their strenuous efforts to keep the speeches and stories up to a high standard of wit. And what a surfeit of excellent pianists and " raconteurs." Ive, de Gruchy

and the brothers Lomax maintained a succession of songs, duets, triplets and vaudeville. Clifton was reluctant—he failed to produce his flexibility—but not so Ensor, his verbosity is becoming notorious. Mr. Mill is a rising star.

Our thanks are due to Mr. Harding for his excellent arrangements.

Hockey.

Inter-Hospital Cup.

Semi-Final.

Guy's *v.* Bart.'s.

THIS match was played at Richmond on Thursday, March 8th, and resulted in a win for Guy's by 4–2.

Bart.'s won the toss and played down hill. The game opened with some mid-field play, and soon Curtis ran through and shot hard, but Bart.'s goalkeeper saved it, only to see the same player score from the rebound.

From the bully-off Bart.'s pressed hard for some time. They were awarded two corners, which we managed to clear, but eventually their pressure was rewarded, for from a melee in front of our goal one of their inside forwards scored.

Some scrappy play followed until we got away on the left, only to see the movement checked, and Bart.'s attacked with such effect that they forced a corner, which Peatfield cleared. Play was still confined to our 25 mostly, although once all our forwards got away and shot three times in quick succession, only to see them all saved by the Bart.'s goalkeeper, who played with sound judgment throughout.

Half time arrived with the score at 1–1. From the restart Bart.'s attacked, but Schofield dealt lustily with all their shots, and soon we forced a corner on the left, from which Archer scored.

Immediately from the bully-off our forwards rushed through and scored again through Curtis.

Up to this point Church had been a great thorn in the side of our inside forwards, but now he was checked, and Peatfield broke through and almost scored with a good flick shot. Play was more even now, although Bart.'s forwards were not so dangerous as ours, but from a corner awarded to them their centre forward scored with a good reverse stick match.

This aroused us again and several times only the skilful play of the Bart.'s goalkeeper prevented us from scoring, but in spite of him we added one more goal through Archer, who scored from a corner on the right.

This game was a triumph of science over brawn. Our opponents hit hard and went for goal each time, but our skilful play more than countered this, and, indeed, we should not have been lucky if we had scored 8 goals, because that was rather the measure of our superiority.

Camps, Archer and Curtis were our outstanding players, but every one played up for the team.

Guy's Team—J. B. Schofield; F. R. Hayward, G. N. Carrell; C. N. Howitt, F. E. Camps (capt.), R. A. Sykes; E. T. Conybeare, A. H. Curtis, C. A. W. Archer, S. R. Peatfield, H. O. Lyne.

Final.

Guy's v. St. Thomas's.

ON Thursday, March 22nd, for the fourth year in succession, we met St. Thomas's at Richmond in the Final, having lost twice and won once before. This time we levelled matters up by winning 2–0.

Conditions for play were ideal, the ground was fast and true, and we had a large crowd of supporters, including Dr. Poulton, Mr. Bromley, Mr. Bulleid and Mr. Morgan and several old Guy's men.

St. Thomas's won the toss and made us play uphill, which suited us admirably. The first 10 minutes were critical for us, for all were wondering if Clayton would keep our inside forwards in check and also if Jerram would riddle our defence, and at the start it looked as if they would, but soon Sykes proceeded to intercept every pass to Jerram, and when the rest of the team saw Jerram held they improved, and from that point we were a winning team.

After 15 minutes very even play, during which neither side could penetrate their opponents' 25, Sykes stopped a pass to Jerram and sent the ball across to Curtis, who gave Archer a pass for the latter to run through and score with a very fast shot from close quarters.

After this St. Thomas's pressed hard and forced several corners, including two penalty corners, but we saved the situation each time.

Play became even faster if possible. Our long-hitting game at length prevailed again and it was Curtis this time who evaded the backs and scored with a magnificent shot from a difficult angle.

Sykes continued to worry Jerram, who was now getting anxious, while Howitt kept the left wing so well in subjection that neither were noticed. Harper was well marked by Camps, who seemed to be everywhere.

After some mid-field play half time arrived with Guy's leading by 2–0.

After resuming play became even sterner and much more level, for during the first half we were definitely superior. It was the turn now for the defence on both sides to shine. For St. Thomas's Scott and Light at back were very sound, and they took advantage of the fact that our inside forwards were passing just too late. Both our wings were very cramped owing to efficient marking, particularly our left wing.

St. Thomas's attacks met an even more sure fate than our own, for usually the halves stopped it, and when they were passed there were our backs, who played with clockwork precision, covering one another well. Carrell, on several occasions, seemed to glue the ball to the point of his stick and then suddenly do one of his " flicks." Schofield, in goal, played well and dealt with the four shots he had in a manner most disheartening for St. Thomas's ; he kicked it out past our 25 each time.

About 15 minutes from the end Jerram changed to inside right. Now it was a question of which side was in better training, but St. Thomas's made their final tremendous effort in vain. Not even Jerram or Harper could get through ; when a St. Thomas's man got the ball two Guy's men were on him at once.

During this half let it not be thought that our forwards were non-existent. Conybeare on the right gave our opponents many anxious moments. Several times he got away and centred, but always it was the St. Thomas's backs who emerged with the ball.

Curtis and Peatfield tackled back with untiring energy, often going right back to our circle.

It was a source of regret to us that we did not get any corners, as we have scored several goals recently from them, notably two against Bart.'s in the Semi-Final.

Throughout, our team work was superb, and it was this rather than individual brilliance which won us the match. Although the Press announced it as an unexpected result and said that St. Thomas's forwards were below form, we should like to point out that our opponents played as well as we let them play.

Last, but not least, our supporters cheered so well and were so obviously thrilled that we could not do other than play our best, and a bit more, to win. We thank them and the members of the Staff who gave us their support. May we retain the Cup next year.

Guy's Team—J. B. Schofield ; F. R. Hayward, G. N. Carrell ; C. N. Howitt, F. E. Camps (capt.), R. A. Sykes ; E. T. Conybeare, A. H. Curtis, C. A. W. Archer, S. R. Peatfield, H. O. Lyne.

Hospital Information, etc.

Pass List.

SOCIETY OF APOTHECARIES

March, 1928

Forensic Medicine

H. S. Marks C. C. F. White

Papers by Guy's Men.

R. P. Rowlands, M.S., F.R.C.P. Gastric Ulcer : True and False, *Clin. Jour.*, lvii, 1928, 133.

C. Worster Drought, M.D., and B. W. Crowhurst Archer, M.B. Fröhlich Type of Dyspituitarism with Extreme Genital Dystrophy, *Proc. Roy. Soc. Med.*, xxi, 1928, 772 ; *Sect. Study Dis. Childr.*, 36.

Maurice Weinbren, L.R.C.P., M.R.C.S. Surgical and Pulmonary Tuberculosis, *Ibid.*, 748 ; *Clin. Sect.*, 60.

Philip Turner, M.S. Abscess in the Liver of Uncertain Origin, Associated with Enlargement of the Spleen, *Ibid.*, 753 ; *Ibid.*, 65.

G. F. Gibberd, M.S. A Consideration of the Results of Albuminuria occurring during Pregnancy, with Special Reference to the Relationship between Pregnancy Kidney and Chronic Nephritis, *Ibid.*, 831 ; *Sect. Obst. and Gynæcol.*, 39.

Hugh Barber, M.D., M.R.C.P. A form of Senile Seizure, *Brit. Med. Jour.*, 1928, i, 492.

Arthur Bulleid, L.R.C.P., M.R.C.S., L.D.S. Apical Infection, *Ibid.*, 801 ; *Sect. Idont.*, 21.

T. Izod Bennett, M.D. Goulstonian Lectures on Some Problems of Nephritis—Lecture II : The Problem of Œdema, *Lancet*, 1928, i, 637.

John A. Ryle, M.D., F.R.C.P. The Clinical Study of Pain, *Brit. Med. Jour.*, 1928, i, 537.

Change of Address.

F. W. Sander, 316, Seven Sisters Road, Finsbury Park, N.17. 'Phone : Mountview 2434.

T. Evans Jones, " Balmain," Aberayron, Cardiganshire.

Births.

DAVIS—On December 5th, 1927, at Dhanbad, East Indian Railway, India, to Constance Emily (née Cook), wife of G. L. Davis, India State Railways—a daughter (Joan Lister).

Eds. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

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PASSIM

At a General Court of the Hospital, held on Monday, April 16th, Dr. A. P. Beddard was elected to the Consulting Staff, and in the re-arrangement necessitated by the retirement, Dr. N. Mutch becomes Full Physician to the Hospital. Dr. G. B. Dowling is to occupy the post of Assistant Physician to the Skin Department.

The Hunt Memorial Library is now housed in a quiet room leading off the corridor, which approaches the Clinical Laboratories. We can imagine no more fitting tribute than this restful sanctuary dedicated to the literature which has grown up round the branch of medicine that proved the one absorbing interest of Dr. Hunt's career. A complete collection of his own contributions to cardiology is supported by a wide range of books dealing with associated subjects, together with bound copies of those English and Continental journals which confine their matter to the heart and respiratory system. The comfort of those who come to use the Library is not forgotten, and the room is more than a library in that its walls are pleasant with a fine pastel that speaks a likeness of him whose memory it serves.

In view of the appeal for funds for a memorial to the late Professor Starling recently instituted at Guy's, it is interesting to note that University College is also active in the matter of a joint Bayliss-Starling memorial, the late Professor Sir William M. Bayliss having worked there in close co-operation with Professor Starling for a great many years. The Committee in charge of this appeal suggest that the "most fitting memorial would be the creation at University College of a Bayliss and Starling Studentship, open to any graduate in science of any University, or any graduate or undergraduate of medicine of suitable standing, to enable him to spend a year or more in such training in physiology and biochemistry as would fit him for research."

Now that froth blowing has become a fashionable occupation and is no longer sacred to the proletariat, the benefits of its newly-acquired gentility are beginning to take a definite and altogether laudable form. We learn from Sir Alfred Fripp that in the allocation of the funds accumulated by the Ancient Order associated with the above-mentioned activity the sum of £1,000 is to provide for the endowment of two cots at this hospital as part of a scheme for the finance of 50 beds for children in hospitals throughout the country.

The inevitable back surgery was always the fly in the not unpleasant ointment of junior dressing. It seems that this unwelcome insect must now invade the bland smoothness of the orthopædic and ophthalmic appointments, for the shortage of dressers is so acute as to warrant stern measures. For the newly or nearly qualified a refresher course in bandaging will do no harm, and there will be ample opportunity for any bright idea in energetic antisepsis. Who knows what may come of this minor earthquake in our set routine? We can see a number of seasoned chronics hard pressed to defend their trivial ailments from the onslaught.

THE aggressively accurate clock in the front quad has suffered with resignation the regilding of its weathered countenance, but has not allowed this unwanted erection of scaffolding to hide its rigid regularity. Even Big Ben is known to have his off days, or to take a nap now and again, but not so our own particular timepiece. It resolutely refuses to excuse us our lateness for an appointment or to help us to catch trains, and apparently no gilder on earth is to interfere with its own idea of duty.

WE have been asked to announce that the Annual Dinner of the 'Nineties Club will take place at Gatti's Restaurant in the Strand on Wednesday, May 2nd, at 7.30 p.m., when Major-General Barrow, C.M.G., D.S.O., will be in the Chair. The dinner will be preceded by a meeting at 7.30 p.m. The price of the dinner will be 15*s*., exclusive of wine. Any members intending to be present are asked to notify either E. B. Dowsett, Esq., 118, Gloucester Place, Portman Square, W., or P. F. Henry, Esq., 73–76, King William Street, E.C.4, as early as possible.

THE Thirty Club Dinner will be held on Friday, 18th May, at Gatti's Restaurant. Any member not receiving a notice should communicate with the Hon. Secretary, Dr. J. J. Conybeare, The Warden's House, Guy's Hospital.

WE dislike stressing unpleasant truths, but we have to remind subscribers to the GAZETTE that, in spite of our notice in Passim of January 14th, certain subscriptions are still due, and may be sent to the Manager at the GAZETTE Office.

Obituary.

Dr. A. E. NORBURN, M.D., M.B., B.S.

IN the death of Dr. A. E. Norburn last December many old Guy's men have lost a friend.

Joining Guy's in 1883 for Science Classes, he entered on his medical studies in 1884. Short in stature, frail in constitution, his quiet determination, sterling character and abilities soon became recognised, and he passed under the apt soubriquet of "The Sage" or "Socrates."

He gained the Gurney House Prize and also a prize for a paper at Guy's Hospital Physical Society.

Though unable to take a personal part, he was always interested in the athletic side of the Hospital life.

Beginning his senior appointments as Dresser while the old "Rooms" were in existence, he was one of the first to enter into residence when the "College" was opened first as H.P. to the late Sir Frederick Taylor and then as Obstetric Resident.

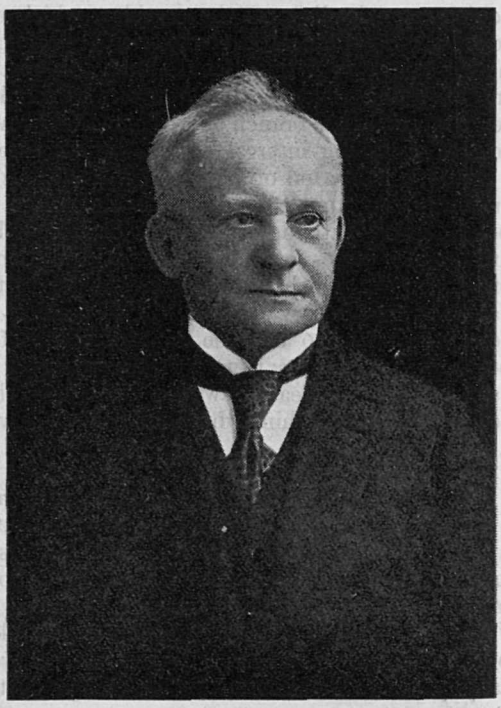
During his time at Guy's he attached many friends to himself, both of members of the Staff —including the late Mr. W. H. A. Jacobson and Sir J. Goodhart—and fellow students generally, who recognised his outstanding character.

After taking the M.B., B.S.Lond., his health failed, and he obtained an appointment as Surgeon on one of the Union Steamship Company's ships to South Africa, soon rising to the charge of the largest and best vessels of the Company's fleet.

Many life-long friendships were made during these years, both with officers and passengers.

On most voyages he was permitted to organise and conduct services in one of the saloons on Sunday evenings.

As a friend, writing of him elsewhere, said: "He sailed through life with his colours nailed to the masthead."



When fully restored to health he settled in Bath, and was soon engaged very successfully in practice.

During the Great War he acted as one of the medical officers to the Bath War Hospital. About this time, when a tablet was unveiled in Bath Abbey to the memory of the late Dr. Almond, who had fallen in the war, Norburn was chosen by his colleagues of the B.M.A. to make the speech on the occasion, which he did with conspicuous ability.

In 1925 the B.M.A. held the General Annual Meeting in Bath. As President of the Bath and Bristol Division he shared in the onerous preparations for months beforehand, and he was charged with the editing of the *Book on Bath*, in which he wrote a chapter on "Modern Bath."

Conservative in politics, his travels impressed him strongly with the privileges of living under the British flag.

He was keenly interested in missionary work, and many meetings were held in his garden.

Sociable in disposition, he was a regular attendant at the Guy's Biennial Dinner, so keeping in touch with old friends and fellow students.

He returned from a holiday in Italy during the past autumn, and shortly afterwards was taken with a fulminant attack of appendicitis, under which he sank after 16 days' illness, notwithstanding the efforts of his medical and surgical colleagues, who will long remember his patience and calm courage under severe sufferings, his gratitude for any little service rendered, and his cheerful looking forward to the life beyond with God.

His loss will be greatly felt by a large circle of patients and friends, to whom he had endeared himself by habitual thoughtful and generous kindness.

Intelligence: Its Nature and its Measurement.

A Paper by R. D. Gillespie, M.D.

GENTLEMEN,—The topic of this discourse was suggested by three chief considerations, namely, the widely increasing use of "intelligence tests" in schools, in the selection of careers and occupations, and the like; their application of intelligence tests to clinical medicine in the case of backward and, in the technical sense, mentally defective persons; their widely increasing use in schools and occupations and the like; and last, but not least, the very natural scepticism with which they are apt to be received by those who have not experienced their usefulness.

What is intelligence? Nobody knows. Intelligence has been described as the ability to comprehend the relationships that underlie phenomena encountered. Every one who uses the term knows to some extent what he means by it, and can, roughly, recognise degrees of it, yet intelligence is not easy to define. A subtler analysis than that of everyday life finds difficulty in discovering its essence. Even professed psychologists are vague, and differ in their definitions. James says that the "pursuance of future ends, and the choice of means for their attainment, are the mark and criterion of the presence of mentality. . . . We all use this test to distinguish between an intelligent and a mechanical performance." McDougall stresses the profiting by experience. Intelligence, he says, is the capacity to improve upon native tendency in the light of past experience, in contrast with instinct, "which is the natural or inborn capacity for purposive action."

The tendency that at once arises is to contrast intelligence with instinct, but this distinction, according to other writers, breaks down; even "instinctive behaviour would be regarded as originally intelligent were it not for the assumed self-evidence of the proposition that intelligent action implies prevision of results which is possible only through previous experience" (Stout), and Stout concludes that "instinct has an intelligent character which is not wholly traceable to previous experience." He designates as intelligence simply attention, plus appreciation of success and failure. Intelligence, in other words, is a generalised function; instincts are specific and utilised intelligently in a specified direction. There seems, therefore, to emerge from these rather divergent definitions several characteristics:—

(1) A contrast with instinct;
(2) The generalised nature of intelligence;
(3) Foresight or purposiveness;
(4) Appreciation of the results of experience shown in the choice of means;
5) Persistence.

The (writer who has developed the assumed contrast with instinct to the fullest extent is Bergson, who treats instinct and intelligence as two entirely different modes of activity, two divergent lines of evolutionary adaptation—two "divergent directions of an activity that split up

as it grew." "Instinct perfected is a faculty of using and even of constructing organised instruments; intelligence perfected is the faculty of making and using unorganised instruments"; in other words, instinct uses the bodily organs provided by Nature, intelligence manufactures tools for its use anew. He then says a daring thing about intellect. "The intellect is characterised by a natural inability to comprehend life." It understands only the stable and unchangeable, whereas instinct is "moulded in the very form of life." "The most essential of the primary instincts are really vital processes. The potential consciousness that accompanies them is generally actuated only at the outset of the act, and leaves the rest of the process to go by itself." Here there is another distinction suggested. Consciousness is a condition of intellectual activity; in instinct consciousness is incidental only, and perhaps present only when intelligent co-operation is required. When Bergson speaks of intelligence as being unable to comprehend life he is apparently thinking of a contrast with what we should call intuition, which evidently he regards as essentially instinctive.

Here, then, we have other criteria of intelligence—the working with tools hewn out of the environment as opposed to the activity of inherited structures, and the attribute of consciousness. Whether intelligent activity can exist without consciousness, as ordinarily understood, it is difficult to say. We shall see later that there is much evidence that it can. Here, it may be said, that in dissociated states in which consciousness appears to be absent, the behaviour may have all the marks of intelligence; it has even been remarked of certain persons that they were more intelligent in a disassociated state than when fully conscious. For example, a schoolboy patient of mine was reputed to solve arithmetical problems with much greater facility while in a trance than he could while he was awake. In placing instinct alongside intellect as a separate but equally endowed mode of activity, Bergson differs from most authors, who would place instinct and intelligence in a hierarchy. Thus Buhler distinguishes three grades of development — the reflex, the habitual and the intelligent. The reflex stage, however, suffers from its lack of adaptability and the stage of habit from its inertia. neither of which disadvantage is possessed by intelligence, which is not only adaptable but rapidly so.

Two primarily opposite theories have been advocated regarding the developmental relationships of reflex and instinct, the one theory holding that instincts are developed from reflexes and the other that reflexes are but degraded instincts. By an extension of this principle, instincts were originally intelligent actions, which in the course of physiology have become habits. The general tendency now is to regard reflexes, instincts and intelligence as being different in degree rather than in kind. Thus, Koffka says: "Instinct, habit and intelligence instead of being three different principles are the expression in different forms of one and the same principle." Consciousness in this view is not the accompaniment of intelligence alone; the types of activity differ in the amount of consciousness which accompanies them. Thus, the principle of continuity is preserved. Jennings, from his studies of the paramœcium and the amœba, came to the conclusion that their activities were such that if the protozoa were magnified many times we should not hesitate to attribute consciousness to them. The activity even of an amœba seems not only conscious but intelligent.

The impossibility of distinguishing the emergence of intelligence and consciousness at any particular level of development and the greater consistency and plausibility of a hypothesis which regards them as present in rudimentary form even in the activities of primitive organisms is clearly brought out by Head.

Head describes the different grades of complexity involved in the various forms of activity from the simplest reflex to the most refined actual activity, viz., that involved in speech, as increasing degrees of "vigilance." He illustrates his contention by pointing to the behaviour of the decerebrate cat. "If the brain is removed just in front of the superior colliculi . . . water placed in the pharynx is swallowed in a normal manner, and when a small quantity of alcohol is added the tongue makes a wide, sweeping movement, curling as if to lick the lips. On the other hand, oil produces no movement of the pharynx or tongue. Several different reflexes can be evoked from the pinna, each of which is adapted to the nature of the stimulus; if it is pricked it folds down, but touching the hairs within the ear causes a movement, which would be most effective in dislodging a flea. A drop of water placed in the pinna is followed by a rotation of the head, which brings the stimulated ear downwards, followed by a shake admirably adapted to displace the fluid. These responses are truly discriminative." If the animal were intact we could say that these reactions were conscious. They are at once impaired or even abolished by certain toxins, such as chloroform and sepsis and by trauma and hæmorrhage. The state of high-grade physiological efficiency that is therefore necessary for the occurrence of these complicated discriminative reactions, Head would designate as a high grade of "vigilance." It is emphasised that high vigilance is not merely great

excitability, it involves also nice adaptive discrimination. Now, these highly delicate responses, occurring presumably without consciousness as we usually know it, and readily affected by noxious agents, closely resemble those complicated activities which although first practised consciously have become habitual and unconscious. These secondarily automatic movements are likewise easily affected by toxins or even by simple worry. Who has not observed his tennis service go " off " if he allows himself to worry about a patient during the game ? It is not a matter of conscious attention being disturbed, for one can think of other more pleasant things and one's game is not affected. A toxæmia is not a phenomenon of consciousness, yet it affects these secondarily automatic acts of skill. In Head's phraseology the neural vigilance necessary for them is lowered. The making of a stroke at tennis is an intelligent affair, yet the less consciousness is involved in the stroke itself, and the more conscious attention is directed to the ball and to the playing of it, the better the result. Here we have an example of an intelligent action of which one part, originally intelligent in every sense of the word, goes on better without conscious attention. All that is necessary is a certain degree of neural vigilance. Complete consciousness is associated only with the highest degree of vigilance—the lower the vigilance the less consciousness.

From such observations as Head's it becomes evident that there is no mark of behaviour that will distinguish some level in the hierarchy of vital activity as intelligent ; it is a matter of degree, for in all the forms enumerated were found some degree of persistence of effort, some appreciation of present meaning and some evidence of profiting by experience, and, consequently, some choice.

ANIMAL LEARNING—INTELLIGENT OR UNINTELLIGENT

Those who have sought to deny intelligence of any degree to the lower forms of vital activity have based their opinion partly on examination of animal behaviour in the learning of simple tasks. For example, the manner in which rats learn to make their way to food in the centre of a maze or in which a cat has escaped from a puzzle cage has been explained in purely mechanical terms. Thus, a cat which has not been fed for a long time is placed in a closed cage, from which food is visible. The cage is provided with a door or some other arrangement which opens as soon as the animal has carried out a certain act, the animal being required to pull down a string or turn a lock, or press a lever or raise a latch in order to open the door. The animal does ultimately succeed after a greater or less number of attempts, and after a while discards all unnecessary movement and regularly makes the correct action for getting at the food. According to the mechanical or non-intelligent theory, the result is obtained without any participation on the part of the animal as an active conscious being ; the result simply comes to pass in the long run as a result of the entirely automatic functioning of its neurones. This is the *principle of trial and error* according to which the animal's neuromuscular organisation simply goes on reacting till by virtue of two simple laws—the law of frequency and the law of recency—the correct reaction is finally established.

According to the law of frequency or exercise that reaction becomes established which is most often repeated (a neural pathway being grooved by repeated exercise), and as it is the successful reaction which is assumed to be most often repeated this successful reaction becomes established. Thus, suppose that only two reactions are possible, A and B, and that B is the correct one. Then when A happens to come first B must follow, but when B is first used A does not follow, since success is already attained—*e.g.*, suppose there are 8 trials, in which the following results are obtained :—

(1) A. B.	(5) B.
(2) B.	(6) B.
(3) A. B.	(7) A. B.
(4) A. B.	(8) B.

Here B occurs in the 8 trials 8 times, while A occurs only 4 times, hence B tends to become established rather than A (law of neural habit). But, in actual practice, the assumption that A and B alternate does not hold. The cat in the cage will often repeat the unsuccessful expedient A many times in succession before passing to the successful expedient B. Such results as the following may occur (Koffka) :—

(1) A, A, A, B.	(5) B.
(2) B.	(6) B.
(3) A, A, A, B.	(7) A. A, A, B.
(4) A, A, A, B.	(8) B.

Here A, the unsuccessful reaction, has occurred 12 times, while B has occurred only 8 times. Hence, the law of frequency cannot apply.

A study of the curve obtained from observation of the activity of animals in this problem yields further evidence in the same direction, namely, that animal learning is not simply a matter of mechanics.

If the ordinate represents time in seconds taken to obtain the result, and the abscissa represents successive trials, the curve obtained is the curve of learning. It is not a uniformly descending curve. As a matter of fact, it commonly shows a sudden descent in some part of its course, after which it remains at a much lower level than

before. It corresponds closely in fact to the type of curve obtained from human subjects working at mechanical puzzles requiring manipulation.

The sudden drop can be explained only in terms of a sudden insight into the solution of the problem, presumably of the same nature as the realisation by a human being of the solution to a puzzle.

It is only necessary to watch the behaviour of higher apes in order to conclude that something very like intelligent thinking as we know it is present in them, although, of course, in simple form. Thus, Kohler says of his chimpanzee "Sultan," who had been given the problem of fetching fruit which hung out of his reach with a stick and a box to stand on: "Sultan would scratch his head slowly, otherwise moving nothing but his eyes or perhaps his head while he observed the situation about him in the most careful manner." And when Sultan hit upon the solution a look of enlightenment spread over his countenance.

It is clear that the attributes of intelligence are present in some degree in the activity manifested by the lower animals.

INTELLIGENCE IN MAN

If we turn now to intelligence as we understand it in man, we find that it is apparently a complex affair. It involves, as we found intelligent behaviour in general to involve; (1) The retention of past experience or simply retentiveness (profiting by experience); (2) ability to perceive relationships (meaning), or "insight," and to act upon this perception by adapting past experience to it; (3) persistence; (4) attentive interest or curiosity; and (5) foresight.

These five conditions of intelligent activity are themselves complex. They presuppose at least the following aspects of mental process:—

Memory of various kinds—auditory, visual, tactile, kinæsthetic;

Perception, association, imagination and ideation;

Discrimination and judgment;

Motor co-ordination.

The totality of these conditions we call intelligence.

We judge the degree of it in individuals by the ability which that individual displays in the practical problems of everyday life. But that is a rough and ready method, and, moreover, it does not readily afford a basis for prediction. It is universally recognised that intelligence is an important factor, and perhaps the most important single factor in everyday life. It would be clearly a great advantage if we could assess the degree of it whenever we wished to do so, in a more or less exact manner, and in such a way as not only to afford comparisons, but also to furnish predictions of the individual's future. If we could, for example, measure the intelligence of a child and so conclude what kind of work he will be fitted for, and what kind of achievement he may aspire to in adult life, we should be conferring a great boon on parents, teachers and employers, and, ultimately, on the child himself.

The more pronounced degrees of intellectual defect are readily recognised—the definitions of idiots, imbeciles and feeble-minded given by the Mental Deficiency Act are of the very broadly practical type. For example, idiots are defined as incapable of guarding themselves from ordinary physical dangers; imbeciles as being incapable of managing themselves or their affairs; and the feeble-minded as requiring supervision, care and control for their protection.

The methods which have been adopted in the attempt to measure intelligence may be divided into three classes—the physical, the psychophysical and the mental.

Of the physical methods, the phrenology of Gall and Spurzheim, now completely discredited, was probably the earliest. This method of craniometry, of physical measurements of the skull, has a scientific basis of a kind, as becomes clear if we consider the physical correlations of intelligence, for we find that the greatly-increased complexity of behaviour that is present in man as compared with lower forms is accompanied by a general increase in size of the brain, and especially of certain parts of it, and this, of course, means an increase in the size of the skull.

It has been estimated that there are about 12,000,000,000 (12×10^9) nerve cells or neurones in the human brain, of which many more than half —or 9,200,000,000 (9.2×10^9)—are in that characteristically human development, the cerebral cortex.

The evidence for the correlation of brain capacity and intelligence is derived not only from comparative anatomy but from embryology, anthropology and morbid anatomy.

The following table gives the average brain weights of different races (Berry and Porteous):—

	gms.
Australian Aboriginal	1,185
Negro	1,244
Malay	1,266
Sandwich Islander	1,303
Chinese	1,332
Caucasian	1,335

Thus, cultural development and brain weight seem to be correlated. There is a fairly general belief, which would be in accordance with the apparent bearing of the above table, that the American Negro is, on the whole, less intelligent than the American white, but we shall see later

that this conclusion regarding intelligence is a doubtful one.

It is universally agreed that the adult shows more intelligence than he had as a child, and the brain weight differs considerably. (Pfister, 156 cases):

	gms.
End of 1st month	455.2
10th–12th month	832.3
9th–14th year	1,279.0

Spitzka collected the records of the brain weight of 100 distinguished men and found the average weight to be 1,469.98 gms., or fully 100 gms. above the average for Europeans. He also showed that the senile cortical deterioration is delayed about 10 years in the " distinguished " as compared with the " ordinary " man.

The brains of some adult microcephalic idiots examined by Bardleben ranged from 289 to 559 gms. Elliott Smith opined that a brain must reach a weight of 950 gms. before it can become associated with a very low form of human intelligence.

There is, then, a considerable amount of evidence, from various sources, of the correlation of brain size, and therefore of skull size, with intelligence. The minute physical basis of the variations in weight lies chiefly in the supragranular layer of the cerebral cortex. It has been shown that while at birth the infragranular layer is 75 per cent. of its adult thickness, the supragranular layer has reached only 50 per cent. of its adult development. Moreover, comparative studies in mammals indicate that increasing complexity of behaviour is associated with increasing depth, especially of the supragranular layer, although the deeper layers of the cortex in animals approximate in depth to those of the normal adult man.

Persons defective in intelligence from birth often show fewer nerve cells in the cortex, and consequent thinness of it, and an imperfect development of those that are present.

The measurement of the actual size of the skull as a probable measure of intelligence has therefore considerable apparent basis, and, as a matter of fact, the results obtained confirm this impression on the whole, although the groups utilised in the following table were small, statistically considered (Berry and Porteous) :—

	c.c.
149 Students at University of Melbourne —20th year	1,483
153 Schoolboys—13th year	1,352
60 Australian Aboriginals—Adult	1,347
Prisoners—20th year	1,344
39 Mentally Defective Boys—13th year	1,292

But, unfortunately, the correlation of head size and intelligence, while significant, is not at all close, and in school children is not large enough for prognosis (Pearson). For example, although 50 per cent. of the individuals who were found to have unusually small heads—below the 10 per centile of a series of 200—were less intelligent than the average, 5 per cent. had intelligence above the average ; while in schoolboys with unusually large heads, although 25 per cent. were much above the average intelligence, 14 per cent. were much below it, and some were actually feeble-minded (Berry and Porteous). Pearson even goes so far as to say : " The anthropologist who does not advance beyond static characters can give no more information as to physical characters than the old type of phrenologist." Pearson accordingly proceeded to examine the relationshop of dynamic characters like body temperature, pulse rate and respiration per minute and found that they were much more closely related with " mentality " than static characters, such as weight and height. The fact that some abnormally small heads go with abnormally intelligent minds suggests that quality rather than quantity is the important thing.

Sir Arthur Keith remarked of Anatole France's brain, which weighed only 1,017 gms. when stripped of its membranes, or 25 per cent. less than we expect to find in a man of mediocre ability, that " although we know nothing of the fine structural organisation of Anatole France's brain, we do know that with it he was performing feats of genius while millions of his fellow-countrymen, with brains 25 per cent., even 50 per cent. larger, were manifesting the average abilities o daily labourers.

PSYCHO-PHYSICAL TESTS

Since static tests like skull size give such hazy indications of intelligence, anthropologists have resorted to tests such as those of vital capacity, strength of grip, acuity of vision and acuity of hearing. These are not simply physical tests, since they involve mental factors as well. Even the task of breathing into a spirometer to one's maximum capacity involves considerable mental effort. There is a close similarity in the curves of development throughout life of mental characters and those of the physical characters mentioned (Pearson, *Biometrika*, April, 1922, I, III and IV). It is found that there is a slight positive correlation between vital capacity, strength of grip and intelligence, but it is very slight. It therefore becomes necessary to turn to purely mental tests in the hope of finding a reliable index of intelligence.

(to be Concluded)

Extracts from a Diary of a Voyage to the East as a Ship's Surgeon.

(*Continued*)

November 30th

We passed up the bay leading to Yokohama this evening after a somewhat rough passage and dropped anchor outside the harbour entrance at about 10 p.m. The lights of the town stretched away along the coast to each side.

December 1st

We entered the harbour at about 9 a.m. A beautiful morning of bright sunshine and a pleasant tang in the air.

Went ashore in the afternoon and wandered about in what is still very much a ruined city—now in the corrugated iron shanty stage of recovery from the earthquake. The damage done by the upheaval must have been tremendous. Everywhere one sees great chunks of masonry split asunder.

I went into the New Grand Hotel for a few minutes in the early evening. The place was opened to-day and afforded the occasion for much rejoicing. It is very finely fitted out, several of the saloons being decorated in Japanese period styles, which is very effective.

In the evening I had a superb plate of ham and eggs at a little "pub" in the main street, and afterwards went to a Japanese cinema. At the entrance—instead of removing the footwear—the management provide cloth covers like small bags with elastic bands at the mouths. These are slipped over the feet and thus the principles of cleanliness are preserved.

No programme was entirely Western, the first half consisting of an interminable presentation of the doings of one Mussolini. This was followed by an American funny picture of indifferent quality.

No music is played during the showing of the films, but a man stands by and announces the titles and sub-titles in Japanese, with suitable emphasis at the right moments. He got quite excited about the more hectic incidents of each film and really put vim into his announcements.

During the interval the orchestra played selections very badly, and murdered entirely *Poet and Peasant.*

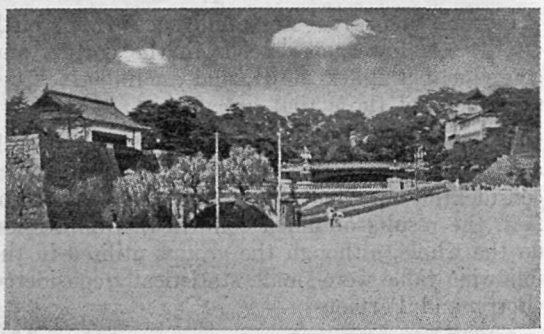
After the interval there was a production from Hollywood.

December 2nd

Visited Tokio. I took an electric train from Yokohama, leaving about 10 a.m. and arriving at Tokio at about 11 o'clock. It was rather a dull day and somewhat cold.

Coming out from the station one came right into the heart of the city, with big buildings—housing several banks, businesses and departmental stores. Going straight down the street leading from the station brings one to the grounds of the Imperial Palace, which was built, I am told, in the Middle Ages. I walked right round this, which is surrounded by a series of concentric moats, with terraced ramparts between them. On the banks of the moats are many weeping willows, which must be very good to look upon in the summer time. The last and inner moat encloses a small hill. On this the Palace stands, of which one can see very little owing to the wealth of fir trees that surround it. Above the trees, however, the typical Japanese curved roofs, with weirdly carved gables, stand out, and that is all one can glimpse.

To the south and outside the moat are the Government buildings—the Japanese Whitehall. These are typical and rather fine modern structures. Passing on in the circle and to the west one comes to the embassies of the various foreign Powers.

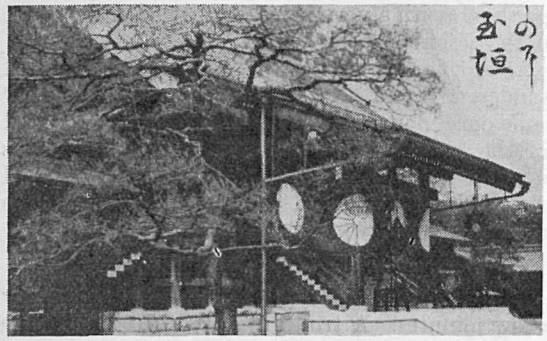


Imperial Palace Tokio.

I arrived at this point just as a school of boys were changing class rooms. All the boys—who appeared to be a very sturdy lot—wear a uniform of blue serge with brass buttons and coats closed

up at the neck—like the white uniform the Mercantile Marine wear in the tropics. Their caps, too, are rather like those worn by sailors.

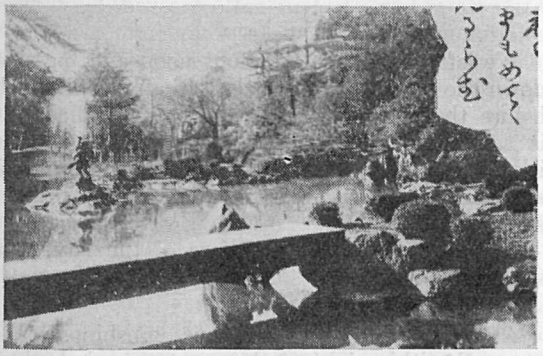
To the distant side of the Imperial dwelling is a shrine dedicated to those killed in the Russo-Japanese War. Leading up to the shrine for about



Shrine dedicated to those who fell in the Russo-Japanese War

half a mile are a succession of gigantic bronze arches. One calls them arches, but that is for lack of a better name; they are actually two columns with cross pieces, the upper one projecting beyond the line of the uprights and the lower some little way from the top connecting the vertical columns.

The grounds of the shrine are very pleasant, and the maple trees were a richly-coloured autumn red. Behind the shrine is a fountain in a pond. The fountain consists of a child struggling with an enormous fish, from the mouth of which the water gushes in fine jets to end and fall in spray.



Gardens of the Shrine.

After buying a few postcards from an aged priest in a small house in the grounds of the shrine, I walked back to the main part of the town, to seek food. I had some difficulty in finding a "chow-house," so I approached a prosperous-looking Japanese and asked if he could kindly direct me to a restaurant. He seemed rather puzzled at first and replied in French, so with a mixture of French, English and Japanese I managed to make him understand that I was distinctly hungry. Whereupon with great kindness he walked, I should say, at least a mile out of his way to take me to a good place.

At the door he bowed with great solemnity, took off his hat and we shook hands with much ceremony.

The lunch was good and included asparagus. After it I inquired of the waiter where the University Hospital was situated. He seemed completely nonplussed, and hastened away to confer with a friend, but soon returned to ask me to repeat my question. I did so and a flash of understanding came over his face. He darted away and came back with another large plate of asparagus.

However, with the aid of a small map and the instructions written in Japanese by a man I asked in the street I managed to find the Imperial University, which is very much under repairs, the earthquake having apparently shaken it up rather severely.

At the gates I inquired of a Japanese student where the Hospital was and got the reply: "I can, sure, do that. Just you hike right ahead till you hit that little old claak tower and then turn to your right, where, I guess, you'll find it all right." I guessed he had been to America.

Leading to the clock tower is a fine avenue of trees, with lecture rooms standing back from the avenue on either side. The whole number of buildings are, however, much scattered and do not make an impressive picture, but, of course, the earthquake seems to have devastated it very much.

I had to inquire once more for the Hospital after ga'ning the clock tower, and here I was taken by the man of whom I made the inquiry to my objective. We passed a number of students playing tennis on hard courts and with soft rubber balls that "clacked" as they were struck. Not one of the students wore flannels, nor did they wear tennis shoes, but any old foot wear.

I believe flannels and special sports wear are considered to be in the nature of luxury, which is much against the principles of Japanese students, who take a great pride in living exceedingly frugally.

We soon reached the Hospital and my guide handed me over to a young medico we met coming out of one of the buildings. The medico, who was an assistant radiologist, very kindly spent the whole afternoon showing me round—he seemed to have much time to spare. We first visited the Medical Block containing about 60 beds, as far as I could make out—my guide spoke very little

Street Scene in Tokio.

English. The beds, as at Singapore, are divided up into first, second and third classes, with appropriate payment. In this block is a large chemical-pathology laboratory, in which several people were working. I could get no sense out of them as no one spoke English.

I was next taken down to their Museum, where for some reason beyond me I was shown hundreds of bottled appendices. These seemed objects of great pride. I wondered whether the Indian scalping principle was at the bottom of it.

At this stage my guide, the radiologist, gathered some one else and we went in to see an operation for gall stones, but that was just in the stage of completion when we got there so we passed into another theatre built on the German principle, that is, an operating table in a large room almost as large as the Physiology Theatre at Guy's, and with a similar arrangement of seats. No student ever participates in an operation in any way, nor are they expected to be present at any except scheduled operations.

The whole of the teaching scheme is entirely modelled on that in force in Germany.

The operation in progress here was for hypospadias. A qualified man dressed to the surgeon and a nurse did instruments. Only the surgeon wore gloves, otherwise the arrangement of tables and instruments were similar to that in England. Ether was given as an anæsthetic and on an open mask. There were no students present except three or four post-graduates.

After watching for some time we went across to the Orthopædic Department, where my guide kept his radiology machinery, all of which is made in Japan. Here he showed me some very excellent plates he had taken in conjunction with the Professor of Orthopædics, to whom I was subsequently introduced. He could speak no English at all, so things were rather difficult. However, I understood from his plates and an occasional word of German—he qualified in Germany—that he was very keen on treating severe degrees of cleft palate by manipulation before operation—a process of squeezing the two alveolar margins together by hand. And he showed me some photographs which indicated excellent results.

He also showed me some plates of hip joints into which he had introduced air before photographing, with a very much more definitive picture of the lesions in the joint.

After bidding farewell to Herr Professor, I wandered round the University and eventually came once more to the front gate, where I inquired for the best way to the railway station, and was escorted to the very doors by the individual I stopped, who happened to be a journalist on one of the Tokio neswpapers.

December 4th

Fugi Yama was faintly visible this morning for a few minutes. A truncated cone of bluish white riding above the clouds.

Fugi Yama.

We left Yokohama at about noon and, passing down the bay, went quite close to an island which before the earthquake was strongly fortified. It is said that during the earthquake the whole island disappeared and again emerged with a shattered fort lying over it, which is its present state.

To the east, at the entrance of the bay, is a smoking volcano.

December 5th

A beautiful day of glorious sunshine. We steamed within sight of the coast the whole day. All the mountains were snow capped.

December 6th

A dull cold morning, getting progressively colder throughout the day, the temperature falling from 40° F. to zero at 8 p.m. Many snow squalls.

December 7th

We arrived at Otaru at a little after dawn. It was quite cold and the whole country side was

white with snow, but the sun was shining brilliantly and there was no wind, which really makes for ideal weather and is very exhilarating.

Otaru, North Island of Japan.

I went ashore in the afternoon and was shown round by one of the men in connection with the coaling—a Japanese. The streets were all deep with snow, about 6 inches, and one saw frequent sleighs drawn by dogs. Small children slid about on toboggans and quite often skis. I believe the Japanese go in for winter sports quite extensively on the neighbouring hills.

The town is entirely Japanese, there being only about half-a-dozen or so Europeans in the whole place. Its population is about 100,000, though to look at it from the sea it seemed almost incredible. This is usually the case with Japanese towns. Quite why, I don't know. Perhaps the low one-storied houses account for it, more especially as they are often tucked away in all sorts of crevices and cracks. The town lies round the bay in a semi-circle, with an extension behind the spur of a hill that projects down towards the sea. It looked very attractive and somehow unexpectedly un-Japanese under its mantle of snow.

The streets were excessively slippery, and I sat down rather painfully once or twice—despite rubber heels.

There is in the centre of the town a large department store, on the American plan. This was demonstrated by my friend with pride, but I bought nothing except some very excellent apples. I was greatly tempted to buy some thoroughly appetisingly scented cakes, but was persuaded not to, as my cicerone said that they deteriorated on getting cold, and were much too sweet at the best of times.

December 8th

We left Otaru last night at about 9 p.m. after entertaining two-thirds of the European population—some five people—to dinner, before lifting anchor.

It was a night made glorious by a full moon that showed up all the land covered with snow. The frosty air gave an added brilliance to the thousands of lights in a semi-circle round the bay, and either side of the bay. Half-way up the hills two enormous electric advertisement signs flashed out in Japanese characters at regular intervals. As one couldn't read these and realise that they probably expounded the virtue of corn cure or stove polish, they made rather fantastically pleasant groups of light. One, I believe, advertised face powder, which, incidently, the Japanese women use without discrimination to effect a mask-like complexion.

The temperature has been going down steadily and is now hovering in the neighbourhood of zero.

December 10th

We arrived at Vladivostock this morning just after dawn. The town lies on a very fine bay, one arm of which forms a peninsula, and also encloses a bay on the other side.

The country we could see from the ship as we approached the harbour was very barren and bleak, with occasional patches of snow, and infrequently a low one-storied building like a barn with small windows and one door. They stood on bare land with no surrounding structures and no gardens.

We soon reached the end of the bay and dropped anchor about half-a-mile from the railway station, which is almost on the sea front—a water-bound terminus to the Trans-Siberian Railway.

Behind the station and sheds incidental to a railway terminus and docks lay the town, of quite good appearance, with a large two-domed church towering well out and surmounted by newly-gilded globes and crosses—an indication of the beginning tolerance of Bolshevism to Christianity.

After breakfast the police and the port doctor came aboard. The doctor was a hearty old chap, well wrapped up in furs. He seized my hand and shook it vigorously and talked nineteen to the dozen.

After satisfying him and presenting him with a tin of Capstan tobacco, the whole crew was mustered for the benefit of the green police, who then searched the ship from stem to stern, no one in the meanwhile being allowed to move from the deck.

We were left severely alone after the police search, and for four days no work whatsoever was done. There was not even a berth for us till the end of four days, when we were moved to the Eggoshelt at the far end of the town.

The day after we arrived I went out to "19th Rest" with the Captain to visit some friends of his—Danes by the name of N—— and an English

lady, one Mrs. F——. The N——'s have been in Vladivostock for about 25 years, and as Mr. N—— is now a chronic invalid with a permanently discharging empyema the Bolsheviks seem to take no special notice of him. Mrs. N—— is a stoutish and pleasant dame of the eminently practical sort who obviously prides herself on there being no nonsense about her. There are two children, a boy of 18 who is inordinately shy, and a girl of about 13 years old.

Mrs. F—— is very charming and has a delightful little daughter, aged 7, who was vastly intrigued by conjuring tricks, and was the first child I have met who reacts ideally to the few simple stunts I can do. The majority of kiddies pounce upon one unexpectedly at the critical moment and discover the secret. Anne simply gurgled with delight and mystification and asked for them to be done again.

F—— is an engineer and represents a firm of electrical engineers at Vladivostok. At the present time there is nothing for him to do, but he stays on at the behest of his firm in anticipation of better days.

19th Verst, or Rest, is about 15 miles out from Vladivostok and on the other side of the peninsula, so it stands on the bay which runs parallel to that on which Vladivostok stands. It is really a village suburb of Vladivostok, where in the old days most of the "best" people who had occupations in town stayed. It is situated on the slopes of a hill that rises up from the bay and among a forest of trees—chiefly beech, oak and, less frequently, fir.

The whole country side was covered with snow and the bay completely frozen.

We went out by train and in a frightfully overheated coach. The coaches look rather like large cattle trucks, and are open inside from one end to the other, with transverse wooden seats back to back and a high intervening partition, topped by a shelf for baggage, separating the seats. At one end is a large coal stove, which is stoked to produce a red heat. The windows are double, so it is easy to imagine the fug.

It took about an hour to get to 19th Rest. We passed first through a very squalid-looking quarter inhabited by Chinese and soon reached the shores of the bay, along which we continued till our destination. At the mouth of the bay there were signs that it was starting to freeze, while father on it was completely frozen and sleighs were being driven across it.

We got to Mrs. F——'s bungalow in time for a very excellent lunch, at which I sampled vodka for the first time. It is a colourless liquor and tastes rather like, I should imagine, a very refined methylated spirit would taste—that is to say, not very delectable. It is customary to serve it in small glasses, and one must drink the whole amount at one gulp; this is an old-established Russian tradition.

After lunch we were joined by one Mr. V—— J——, a Dane, and his English wife, and another Dane by the name of A—— and his wife, and all went to the neighbouring hillside for tobogganning.

The run is rather primitive as nobody is really responsible for its upkeep, and occasionally some of the foreigners give a little of their time to keeping it in repair.

My first attempts at tobogganning were somewhat disastrous and I shot off the track at most of the corners. However, at the end of the stay, to my unbounded conceit, I was able to boast that I came down from the very top without a spill.

In the evening we had dinner with the N——'s, the Danes previously mentioned, and after dinner pranced to a gramophone.

We returned to the ship the next day.

Vladivostok is in a rather dishevelled state, though there are signs of reconstruction. No taxis are to be found, and should one send a telegraph message to a place even as near as 19th Verst it would not be delivered till a day or so had elapsed.

The people all seem well clad, and, despite a severe ban on silk, quite a number of the sex feminine wear silk stockings.

It seems that at one time clothes showing any European style were banned, but the enforcement of the ban has been impossible.

While we were at Vladivostok there was a dance in aid of the Flying Branch of the Army. At this dance the orchestra started to play foxtrots and jazz music, which soon caused the police to interfere, but the orchestra overcame the difficulty by playing Russian airs to jazz time.

The system in the schools is quite interesting. I got this from N——, the Dane who lives at 19th Rest, and he seems quite a disinterested observer.

The children have a great say in the affairs of the school, to the extent even of deposing their masters or mistresses by vote. No punishment nor reprimands are allowed; should a child show signs of boredom or cause trouble, the teacher allows him to go out of the school for that day, so that the child, should he so desire, can take a day off at will. It seems—and this is astonishing—that there are very few absentees and that the children are anxious to learn. Is this an example of inverted negativism? I suppose, too, that teachers have to study to keep the interest and good regard of the children more than those that are inflicted by a relentless authority.

To stimulate in the workers the sense of possession of the country and its industries from time to time various factories and concerns are visited by those responsible for their progress. These visitors make a point of talking to those working at these places, and ask them how their factories are getting on and if they can suggest improvemen s, and so on.

Of course, no one ever knows when he is going to be imprisoned, and various people—one of whom I met—are gaoled for periods of months for no stated reason and released without any explanation at all.

The man whom I met had just come out after three months' imprisonment. They are fairly well treated while confined, and are allowed papers and reasonably good food. There is, however, always the fear that they may be shot at any moment. I understand that 6,000,000 of people have been exterminated in the last 10 years.

One point which I had not previously realised is that the Bolsheviks have all their hopes in the future generations. They fully recognise that they are incapable of converting the existing people to their views completely—and therefore theoretically—unless they show active antagonism, when they kill them; they leave them alone except for propaganda. They admit now that they do not expect to see a satisfactorily working Bolshevist system till the third generation.

December 15th

It has been consistently fine, though very cold, usually somewhere about 10° F. While the sun shines one does not find this any hardship, but, on the contrary, very exhilarating. The winds are piercingly cold and while taking a walk across the ice of the bay at 19th Verst I really thought I was going to lose my ears, which appendages not infrequently get frozen here, I believe, and must be rubbed with snow to restore vitality.

December 18th

Had a very pleasant little dinner with the V—— J——'s. He is something in the Northern Telegraph Co. here and an exceedingly pleasant fellow—as most of the Danes seem to be. His wife is an English girl.

December 20th

We spent the week-end at 19th Rest, a very pleasant repetition of the preceding days, though considerably colder. Yesterday morning the thermometer registered 13°F.–45° F. below freezing point, and on getting back to the ship we found that the harbour had started to freeze.

December 21st

Indications of snow were prominent this morning, and at 10 a.m. it was snowing hard, covering all the decks white. So it was decided to get away with all haste and to leave what cargo was not yet loaded. Heaven knows they had long enough —12 days—in which to do it. We left in a snow storm. Decks 6 inches deep in snow.

Last night I went to visit, with the Captain, two types of Russian—the first a typical Jew with a thick voice and heavy features, who is an agent here for the A—— Shipping Company, and, it seems, a prosperous man. When we arrived at about 6 p.m. he was in his shirt sleeves, working hard, and apparently works all day and far into the evening. His wife is really a beautiful little woman, with a straight nose, a perfectly formed mouth, brown eyes and straight black hair and the olive complexion. She spoke very little English. There is a son who bellows continuously in the background and exhibits all the characteristics of negativism.

As soon as we arrived we were offered tea. A samovar is kept constantly at hand, and a pot of cold ready-brewed tea. A small portion of the brew is put into a glass and hot water from the samovar is added. In addition to tea we were persuaded almost forcibly to eat some Russian pastries.

This couple and their offspring live in a very pleasant flat, consisting of a hall, a dining room, two bedrooms and a study. The latter is only permitted on being called an office.

Each person in Soviet Russia is only allowed a definite amount of house space. People who owned large houses have all had the excess of the allowed space confiscated and parcelled out to "comrades."

The next Russian we visited was a lady of singular charm, who is married to an Austrian she met while the Russians were at war with Austria. She was a fair-haired woman, slightly plump, and, amazingly enough, anxious to be a "leetle" plumper. Almost inconceivable in this age of "slinkiness." I must say I agree that a "leetle" plumpness is much more attractive than the straight line cult of the day. I don't mean obesity, of course.

She welcomed us with frank pleasure, and we soon were drinking tea again and some very sweet liquor from long-stemmed glasses.

She really seemed delighted to see us and was full of a trip she had just done to England, Paris, Germany and Austria. She professed great astonishment at the freedom of the English girls. That girls should be allowed out to dances unchaperoned was to her really amazing. She vows that all the English paint their lips and complexions, and look very smart. In fact, according to her they use as much artificial complexion aid as do the sex feminine in Paris. (? ?)

She was surprised at the high prices in London and detested the climate. She talked with a very pretty broken accent, and with great animation. She was thoroughly delighted when the Captain produced one or two neat compliments and protested that Captain G—— was "verry naughty," he always "made the flattery."

I have omitted one incident that is a little amusing. On going ashore for the last week-end with the F——'s I took a portmanteau containing, among other things, a dark suit and a dressing gown. On reaching the Customs house my belongings were, of course, searched, and much fuss was made about the extra suit and dressing gown. The first man doing the searching conferred with a colleague, and they could come to no conclusion, so I handed cigarettes round and made pleasant noises. I didn't quite say "Nice Customs man, pretty Customs man, sweet little Bolshie," but that is what I intended to convey. After some minutes, discussion Comrades A—— and B—— decided to consult a higher authority, so I was taken to a sombre-looking building across the street, up some flights of stairs and down a very sinister-looking corridor with locked doors on either side. "Prison," thought I. However, the superior comrade thought I might pass. He was much more like a vindictive sort of revolutionary than the first two. Comrades A and B were quite cheerful, friendly individuals. The contents of my bag were written on the back of my pass and had to be checked on my return.

December 23rd

Off the coast of Korea, which is plainly visible as a mountainous country. The temperature has risen steadily since we left Vladivostok, but the weather is vile. High winds and mighty seas that are breaking over the after and fore decks. The after deck is about 6 inches deep in water.

Feeling distinctly seasick.

December 24th

Picked up the pilot at 4 a.m. this morning. Inspected by doctor at Wu Sung, at about 10 a.m. A rosy-cheeked, plump, middle-aged man with brusque manner, typical of a certain genus of medico, and not unpleasant.

Dropped anchor off Old Neng Po Wharf at about 2 p.m.

Had tea at the Country Club with L—— and, later, at the Shanghai Club had dinner.

After dinner I met quite inadvertently Newberry, who is in the Navy and is part of the crew of *H.M.S. Keppel.*

December 25th

A quiet day. Christmas dinner with the crew in the evening.

December 26th

Went to lunch with Newberry in *H.M.S. Keppel.* The *Keppel* is the very latest destroyer, and this is her first commission. She is very compact and every available square inch seems to be used.

She has had shields erected on the quarter deck for up-river work, and this has necessitated the removal of two torpedoes. Just before I went aboard she got orders to proceed as soon as possible to ——. Consequently, everything was in a state of bustle and hurry, so I was unable to see over her.

In the evening I visited the Seamen's Mission, where a tremendous spread was provided for sailors and a few soldiers. They were met by a "hearty bloke" of a woman who bellowed "Hello, boys!" and breezed about talking in a gruff voice and smacking unoffending sailors on the back.

(*To be continued*).

The Evidences of Heart Failure.

B.M.A. Prize Essay. By J. B. Robinson.

THE last three decades have witnessed the advent of a new era in medicine. The birth and rapid growth of the clinical laboratory and the X-ray department is threatening to abolish the practice of medicine as an art, and to place it among the prosaic ranks of the exact sciences. When the human body becomes a standardised unit, free from individual variation, then indeed the threat may become reality, and the clinician of the older school will be obsolete. In the meantime, however, there are many conditions which demand his qualifications for their diagnosis. Prominently among these stands heart failure. Despite the promise of the electro-cardiograph heart failure remains a bedside diagnosis, and as such presents an excellent exercise in clinical detection.

The diagnosis of heart failure rests upon the obtaining of a definite train of symptoms, and their correlation with the physical signs presented.

Apart from somewhat questionable heart signs, the individual signs and symptoms of the condition are none of them specific, but, taken collectively, they go to form a syndrome which is essentially specific. The signs of a failing myocardium are the signs of a failing circulation. As such they will be as widespread as the circulation ; as such they will be the signs of deficiency in either the quality or quantity of the circulating blood, combined with—and this is essential—evidence of retardation of the blood stream, whereby is indicated the type of sign to be looked for, and to some extent its differential significance. When such a syndrome is established one needs theoretically no further evidence to implicate the myocardium ; in practice, one needs to find confirmatory evidence in the heart itself, or at least in the vascular system. By which is meant some ætiological factor in the form of a valvular lesion, the " tick-tack " sounds of myocardial degeneration, or hyperpiesia with arterio-sclerosis, including chronic renal disease.

A clinical study, as opposed to one pathological, demands the presence of a patient, and I propose therefore to introduce a case at this stage and to consider the signs and symptoms of heart failure in relation to it. The patient represents a case of *early* failure, and is one in which there was no obvious valvular lesion to make the diagnosis manifest and simple.

CASE 1

G—— A——, æt. 53, a house steward, admitted May 26th, 1927.

Complains of shortness of breath.

Family History—Both parents lived to over 90 years of age.

Previous History—Scarlet fever at 4 ; dysentery and enteric during Boer War ; " gastritis " 10 years ago ; still has some slight indigestion and flatulence.

Patient was a Scots Rugby International in his twenties.

Present Illness—Perfectly fit Christmas, 1926. Early in new year patient became extremely breathless upon slight exertion. Has awakened during the night breathless, and has to sit up in bed to recover. A few weeks ago patient started to be troubled by an irritating cough, becoming worse towards evening. Patient has had no actual chest pain, but occasionally feels a tightness and sense of discomfort over the lower chest. These symptoms have all become progressively worse. Since their onset patient has noticed his flatulence and dyspepsia more marked.

On Admission—Patient is white haired, slightly cyanosed, lean but not emaciated, dilated venules on face. Some cough is present, sputum thick white mucus. No venous engorgement of neck. Both ankles are œdematous.

Respiratory System—Chest barrel-shaped and hyper-resonant, breath sounds not well marked, some scattered sibilant rhonci to be heard, fine crepitations at both bases posteriorly.

Cardio-Vascular System—Pulse regular, rapid—100 per minute—good volume, artery thickened and cord-like. Blood pressure 185/120—patient states he has previously had blood pressure readings of over 200. Heart not enlarged either to left or to right by percussion. X-ray reports enlargement to left. No murmurs detected. Heart sounds " tick-tack " in character. Hæmoglobin 80 per cent.

Abdomen—Nothing abnormal found except some enlargement and tenderness of liver.

Urine—25 ounces on first day, haze of albumen on boiling, no casts or cells.

Progress—Patient's symptoms allayed by rest in bed. Œdema of ankles cleared up completely. Urine on tenth day 42 ounces ; trace of albumen. Discharged three weeks later, apparently fit ; still has crepitations at bases. He states he is going on a sea voyage after settling up his affairs and retiring as advised.

Using this case as a model one can consider in more detail the signs and symptoms of *early* failure.

Almost invariably the patient first complains of either dyspnœa or pain, or both. Breathlessness is of significance only when it follows upon comparatively mild effort ; undue respiratory distress after some accustomed exercise hitherto performed in comfort is very suggestive. A common description given is that the patient cannot now go up a flight of stairs without having to rest at the top and breathe heavily, or that any attempt to hurry beyond the usual rate has to be given up on account of shortness of breath. It must be remembered that anæmia and pulmonary lesions frequently account for this symptom, and both must be put out by appropriate investigation. Lassitude and dyspnœa are kindred symptoms, but the former is more a symptom of anæmia or phthisis than heart failure. In some cases the patient complains of awakening suddenly during the night short of breath and having to sit up in bed to get relief. He may volunteer that lately he has had to have an extra pillow on his bed in order to ensure an uninterrupted night's sleep. This mild form of orthopnœa, especially if it can be shown to be getting progressively worse, is almost diagnostic of cardiac insufficiency. It has been called cardiac " asthma," a term whose only virtue is to suggest the differential diagnosis. To see a patient during an attack will

remove any suggestion of true idiopathic asthma, and a careful questioning of the patient will reveal its relation to posture, and its comparative regularity of onset, neither of which characteristics are marked in asthma.

Precordial or substernal pain is said to be a symptom of heart failure, particularly when an aortic lesion is present. It is often a warning of the condition of the heart. It may vary in intensity from a vague feeling of discomfort behind the sternum, with a sense of oppression, to attacks of anginal severity. The pain often radiates out to the left shoulder, up the left side of the neck, down the inner side of the arm to the hand—indeed, it may commence in the hand. It comes on with remarkable regularity if the patient exceeds a certain definite limit of exertion, and compels him to rest in order to get relief. Once relieved the patient must perform an equal amount of exertion to bring back the pain. As time goes on the amount of exercise ne essary to elicit the attack is decreased. Very often the patient suffers from dyspnœa in addition, and it may happen that eventually the dyspnœa attacks him before the necessary pain limit is exceeded, and thus the pain may not be elicited ; the converse holds true —the pain may supervene before the dyspnœa. This explains the apparent change which occurs from the one symptom to the other. Perhaps it may also help to explain the statement often made that œdema and pain, at one and the same time, are incompatible symptoms of heart failure ; the degree of venous stasis necessary to cause œdema readily lends itself to the production of dyspnœa. A heavy meal predisposes to an attack of pain, and this fact makes the differentiation between true cardiac pain and pain of gastric origin somewhat difficult. This difficulty detracts greatly from the value of the symptom as an aid to diagnosis. One should never diagnose cardiac insufficiency on pain alone. On the other hand, one should not be too ready lightly to dismiss sternal pain as indigestion, hiding from oneself the graver significance it might have.

In passing, at the present time there is a tendency —probably justified—to regard all substernal pain of cardiac origin as anginal. Nevertheless, in some cases of clear cut major angina—the term dies hard—it is impossible to demonstrate clinically any other evidence of heart failure. Therefore it is safer to say that whilst angina pectoris *may* be a symptom of heart failure, angina pectoris does not indicate actual failure of the myocardium.

Cough becomes an early and prominent symptom in some cases. Often the cough is more or less incessant, particularly in aortic disease, and peculiarly distressing. A patient may first be led to consult his doctor on account of a dry irritating cough of some weeks' standing, the spitting up of blood-stained sputum having warned him that his condition was of more serious import than mere bronchial catarrh. In mitral stenotic failures hæmoptysis may occur. This has to be differentiated from the hæmoptysis of phthisis, and the blood spitting of chronic bronchitis. In the former there is usually an initial brisk hæmorrhage, followed by blood-stained sputum ; in the latter the sputum is *streaked* with blood. The typical mitral stenotic sputum contains no "free" blood ; it is a colouring of the sputum by the blood rather than the blood itself that one sees. Very exceptionally brisk hæmorrhage occurs in a heart failure. Microscopical examination of the sputum may reveal the presence of pigment containing phagocytes, the so-called heart failure cells said to be diagnostic of the condition.

Consciousness of the heart beat—palpitation—is only of significance in so far as it occasionally marks the onset of auricular fibrillation, a condition which is pre-eminently productive of heart failure. In the absence of irregular rhythm one should think of ectopic beats and paroxysmal tachycardia. If, in addition, the patient complains of precordial pain—pain in the poetical site of the heart—one should take care to exclude the so-called neuro-circulatory asthenia, so well described by Lewis as the "soldier's heart."

Thus far one has obtained evidence from the patient's history. One has now to look for physical signs which will show some cause for the symptoms. Many of these signs will have been noticed by the patient himself, and hence are better called objective symptoms. The earliest and most striking will be œdema. This may precede the dyspnœa, but more usually commences somewhat later than the symptom. Cardiac œdema has many characteristics. It always shows itself in the most dependent parts—the ankle first, the leg at rather a later stage. If the patient be put to bed and thoroughly rested, the least degree of ankle swelling will clear up completely. In the more severe cases the œdema will be seen to leave the ankle, the fluid gravitating to the lumbar, and particularly the sacral, region, giving rise to the characteristic sacral "pad." Œdema of the face is *not* a sign of cardiac disease, and this is the first differentiation from renal disease ; the pallor and swelling of the face in nephritis forms the basis of the "spot" diagnosis of that condition. Renal œdema tends to be more generalised and is not so readily influenced by gravity, nor does it disappear as rapidly as does cardiac œdema upon rest in bed. The cardio-renal upsets belong to the acute failures and will not be considered for the moment. There are certain pitfalls to be guarded against when ascribing a cause to œdema. Anæmia may

cause quite a marked œdema ; it also gives rise to breathlessness—a trap for the unwary. Varicose conditions of the legs cause an œdema closely resembling that of cardiac origin, and obese old persons easily become breathless. In fact, œdema of the ankles coming on towards evening is a fairly common symptom among middle-aged women " on their feet all day " who have perfectly efficient hearts.

Examination of the urine follows naturally upon the discussion of œdema. In heart failure the secretion is usually upset. There is a dimunition in volume. The urine is highly coloured, deposits urates on standing and contains albumen and *few* fibrinous casts. The amount of albumen may be said to vary inversely as the efficiency of the heart. When albuminuria has once been an accompaniment of decompensation it is an early feature in subsequent failures. The amount present, its increase or diminution, forms a good index as to the progress of the case. Broadly speaking, the urine of nephritis contains more cells and casts, which, with its albumen content, tends to remain more steady in amount than they do in heart failure. A blood urea of more than three times normal is usually indicative of a primary renal condition.

Probably less obvious than the dropsy are the colour changes. The degree of cyanosis in the early failure may be so slight, and this applies to pallor or congestion, as to be unnoticeable in a patient seen for the first time. The cyanosis of the failing heart is gradual in onset. It is usually confined to, or at least more apparent in, the face. It may be present with a fully compensated mitral lesion, but its presence in aortic or degenerative cases is indicative of failure. Sudden or rapidly increasing cyanosis in a known failure suggests the onset of tri-cuspid insufficiency, or it may mean that some irrelevant pulmonary complication has arisen. One cannot attach great diagnostic importance to cyanosis ; its differential diagnosis is legion.

Jaundice must be mentioned, not as an important sign, but because its presence may be confusing. According to MacKenzie, any degree of jaundice may be present with a failing heart, but it carries no prognostic significance. Although definite jaundice is uncommon, one sometimes meets a " cardiac cachexia " in which the skin assumes a faint yellow tint. I doubt whether this is due to passive congestion of the liver ; a yellow tinge seems to be an integral part of the cachexia of any condition.

On examination of the abdomen the most constant finding is enlargement and tenderness of the liver. The edge may be down as far as the umbilicus in even a very early case, but, although tender, spontaneous pain is uncommon. Ascites ought not to be present in the mild failure ; obvious ascites with no very marked œdema of the legs throws great suspicion on the liver as being the organ primarily at fault. There may be scattered areas of tenderness over the whole abdomen, and this is not surprising when one considers the alimentary upset often present. More frequently than not the spleen is not enlarged ; if it be felt a glance at the nails and at the temperature chart should be made, with possibly a blood culture, in case the condition be much more grave than simple heart failure.

The condition of the lungs yields interesting physical signs. Percussion of the bases reveals to the expert some diminution of normal resonance, whilst the presence of the fine crepitations of alveolar exudation are easily appreciated. Often one gets the impression that the bases do not move so well as in the normal, but obviously individual variation comes into play here and renders the sign valueless except in cases under observation for some time previously.

In this early type of failure, as indeed in all failures, the changes in the cardio-vascular system, directly associated with the failure, are remarkably few. Examining the venous system one may find prominent veins in the neck, which stand out more markedly after such slight effort as speaking. In the normal, prominent veins on the dorsum of the hand should disappear on raising the hand to the level of the manubrium sterni ; their failure to do so is characteristic of heart failure. There are several points to be noted in the pulse. It may be taken as a general rule that in all untreated failures the pulse rate will be higher than normal—80 to 100 per minute in a patient not at rest in bed is a common figure. This excludes, of course, failures associated with the Stokes-Adams syndrome. Although auricular fibrillation is compatible with a perfect compensation, it is so often associated with failure that its presence in many cases has been considered the determining factor, therefore an irregular pulse of this type should make one very chary of discarding the diagnosis of failure. The pulsus alternans and its less definite variations must in 99 cases out of 100 be taken as evidence of failure. Coming to the heart itself, MacKenzie has laid down definitely that dilatation of the heart is an essential of any heart failure. Whilst agreeing with him on pathological grounds, it must be pointed out that, clinically, the demonstration of dilatation may be exceedingly difficult, and enlargement having been made out, the differentiation between hypertrophy and dilatation may be almost impossible. X-rays are useful in this connection, but by no means infallible. However, the presence of a mitral

regurgitant murmur in a heart known to have no pre-existing mitral lesion may be taken as sound evidence of dilatation. The same may be said of a Flint murmur, assuming such to be caused by *relative stenosis*. In the course of the cardiac examination, lesions of the myocardium, valves and vessels may be made out by the signs they give rise to. In themselves they do not constitute failure; they must be regarded as the ætiological factors of the failure. As was stated at the beginning, only in very exceptional cases is one justified in the diagnosis without the demonstration of such predisposing lesions. In the toxic failures—*i.e.*, diphtheria—cardiac dilatation will be found, and may be assumed to be a predisposing factor, if not the actual cause.

We have now got, briefly, the history and signs of early cardiac failure. Take several such attacks, each one more severe than the previous one, and we arrive eventually at acute failure. Here a splitting into two clinical types must be made—the *congestive* type and the *non-congestive*. The definition of these divisions is best made by quoting a case of each. Congestive failures are far more common than the non-congestive, and as such will be dealt with first.

CASE 2

This patient is the same man who figured in the case of early failure I have given. His readmission forms an interesting sequel to his previous illness, and one can compare his physical signs on the two occasions and arrive at a reasonably accurate estimate of their significance.

Readmitted—August 8th, 1927.

History Since Discharge—Whilst out at sea was taken severely ill, and, acting on instructions by wireless, he was bled, a "lot of blood" being removed. This venesection was performed four days before admission.

On Admission—Patient is lying flat in bed, extremely cyanosed. He is very restless, pulls the bed clothes about and mutters incoherently to himself. He has occasionally lucid intervals in which he recognises his wife and the House Officer; he drops off to sleep for two or three minutes, only to awaken again restless. The veins of the neck stand out, pulsating with ventricular rhythm. His breathing is of the Cheyne-Stokes type—periods of apnœa lasting about 10 seconds, followed by three or four deep sighing breaths. There is generalised anasarca.

Respiratory System—Bilateral hydro-thorax as shown by dullness and absent breath sounds. Coarse moist rales to be heard over whole chest.

Abdomen—Marked ascites, liver enlarged below umbilicus, and tender. Palpation left "pits" in anterior abdominal wall. Spleen not felt.

Cardio-Vascular System—Pulse rapid, 120 per minute; regular, "thready," with variation in volume between individual beats; is not regularly irregular—*i.e.*, is not a typical pulsus alternans. Heart greatly enlarged both to right and left; apex beat not visible. Blowing systolic murmur at apex, conducted outwards to axilla. The presence of the stethoscope on the chest wall left deep pitting. Blood pressure 190.

Urine—12 ounces in 24 hours. Heavy deposit of albumen on standing; a few casts, no cells.

Progress—Patient died next day. No P.M. was performed for private reasons.

In acute congestive failure the diagnosis again rests upon the history and the physical signs. The history is represented by a series of progressively more severe attacks, terminating in the present crisis. Very often, for obvious reasons, no history will be unobtainable; the patient is too ill to express himself lucidly, and his friends may not be present. But the characteristics of the condition are such that a diagnosis can be made on the physical signs alone. Therefore the physical side will be stressed now, and reference will be made to symptoms as they arise out of the physical examination.

In this condition the somewhat despised method of inspection from the end of the bed is invaluable. Two well-defined clinical pictures are seen. In the one the patient is lying propped up in bed, his cheeks livid, his lips blue. He is breathing rapidly, all the accessory respiratory muscle called into action; his distress is obvious. Restlessly turning his head from side to side his expression is drawn and tense, showing entire indifference to his surroundings and concerned only with his own overwhelming anxiety. Questions are answered, if at all, shortly and without attention. The prick of the hypodermic needle is resented irritably, but not violently. The veins of the neck stand out, perhaps pulsating. The alternative picture differs essentially from this. The patient is lying back in bed, intensely cyanosed, breathing sluggishly with long-sighing breaths; periods of apnœa show his respirations to be of the Cheyne-Stokes type. His restlessness is of another type. He does not appear to be dominated by anxiety; he will pull down the bed clothes, try to remove his shirt, hang arms and legs over the bed side. He may mutter to himself, being unconscious of his environment—in fact, exhibit all the symptoms of approaching delirium. To such a group belongs Case 2. The condition, where there is relief from dyspnœa and orthopnœa, indicates the onset of tricuspid insufficiency, and an exceedingly grave prognosis. The picture presented may be in part due to the administration of narcotics. I

feel sure that a certain proportion of the cases of Cheyne-Stokes breathing in heart failure are entirely due to dosing with morphine.

A closer examination of some of the signs presented by this inspection is of utility. The cyanosis is characteristic; the face is of a dark-grey hue, dilated venules showing up against a pale background. This differs from the cyanosis of anoxæmia such as might occur during a general anæsthetic, which shows up as a uniform purple colouration of the tissues. The visible pulsation of the veins of the neck may be of the normal venous type, or may be of a ventricular rhythm. The dyspnœa manifests itself in rapid, comparatively shallow respirations; very exceptionally the air hunger is of the type peculiar to the comatose uræmic or diabetic. The Cheyne-Stokes respiration is not quite the text book description. The three or four long breaths taken are more or less equal in length, not the gradual increase and wane as described in the physiological department. The apnœa rarely lasts more than 10 seconds at each period.

Extending the inspection to the parts beneath the bed clothes one is struck by the general colour of the body. The œdematous tissues are not of the waxy whiteness of nephritis; the skin seems to be of an indefinite slate colour—"dirty" expresses the impression one gets. The increasing severity of the œdema from above downwards is often well marked. Indeed, there may be "induration" in the region of the thighs marking the upper limit of the intense œdema.

At least some small degree of pitting can be obtained over the whole surface of the trunk, but in certain regions, the legs and over the sacrum, the deepness of the pitting reveals the severity of the condition, a fact which inspection alone does not really bring out. Although the ascites may be well marked, the abdomen is rarely tense; one would hardly speak of heart failure as producing a "pot belly." All the organs are difficult of palpation and the patient may resent any determined attempt at doing so. The liver is easily made out, and may be enlarged almost to the symphysis. Often it pulsates, and in many cases it is a ventricular pulsation. It is uniformly tender and may cause spontaneous pain, although not always so. The rapidity of its enlargement seems to be the determining factor. The edge is smooth and firm, and its characteristic sharpness may be replaced by a more rounded feel. There may be generalised tenderness, and in this connection must be mentioned the symptoms of alimentary upset, often severe, which accompany the condition in its early stages.

Going over the chest one finds evidences of the same water-logging that the other parts of the body show. Lessened movement at both bases' board-like dullness, diminished voice and breath sounds, indicate hydrothorax. This is often more marked on the right side than on the left; if the hydrothorax be unilateral it usually occurs on the right side. All over the chest moist rales indicate the pulmonary œdema and congestion. The condition might conceivably be confused with a terminal pneumonia—the type of case one meets a few hours before death. The history of the case and the temperature chart ought to remove any doubt on this question.

When considering the vascular changes in *congestive* failure it must be remembered that in the majority of cases the lesions concerned are of rheumatic origin; hence, auricular fibrillation will be the rule rather than the exception. The pulse of the fibrillating heart of failure is rapid, usually more than 150 per minute at the wrist, and about 170 at the apex. By palpation at the wrist, with simultaneous auscultation at the precordium, the presence of many ineffectual beats will be made clear. In the terminal stages the pulse may become uncountable. As stated previously, the pulsus alternans must be taken as diagnostic of failure. In cases associated with a high blood-pressure, blood-pressure readings disclose some interesting facts. A steady fall of pressure indicates a bad prognosis, but, strangely enough, a man may die of heart failure without any drop in his high reading, which suggests that there may be some fallacy in the estimation of blood-pressure by modern methods in cases with thickened and hardened arteries.

The heart is always greatly dilated, well beyond the limits of hypertrophy. Many modifications of the heart sounds have been described, but only one is at all convincing. In the failing mitral stenotic, the presystolic murmur having been abolished by fibrillation, the "slapping" first sound of the compensated heart is replaced by a thinner sound, which may be aptly described as "snap-like." This is supposedly due to diminution of the muscular element. The murmurs of the pre-existing valvular lesions, if any, may be greatly modified or abolished by the failure; in certain cases the blowing apical murmur of dilatation may be isolated and recognised.

It is in this type of failure that therapeutic methods of diagnosis are invaluable. The slowing of the pulse under the influence of the cardiac glucosides and the general improvement of the patient constitute the ideal combination of diagnosis and treatment.

The flow of urine may be diminished to the extent of complete suppression. It is of high specific gravity, dark, and precipitates copious quantities of pink-tinted urates. Casts and cells

are often found. An increased flow of urine is frequently the first sign of a turn for the better, and this is a better indication than a decrease of the albumen content.

CASE 3

T—— A——, æt. 36, a ship's fireman.

Complains of shortness of breath.

Family History—Nil.

Personal History—Rheumatic fever as a child. Typhoid when 18. No history of syphilis (Wasserman and Sigma reactions negative).

History of Present Disease—For last 12 months patient has been getting progressively more short of breath on exertion; during last four or five months has been unable to carry on with his work. Five days before admission reported unfit for work and told to come up to hospital. The day before admission patient had a giddy attack with transient loss of consciousness. He was admitted to hospital and was kept there for three weeks. Discharged fairly fit, he was re-admitted a week later.

Condition on Admission (Re-Admitted)—A well-built man, young looking for his age, sitting propped up in bed. He is very pale, but not cyanosed. He is breathing deeply and rapidly, and has a frightened look. He is being given oxygen through a nasal catheter. His mentality is normal and he is able to relate, with great difficulty owing to his dyspnœa, his symptoms during the last week. His nights have been disturbed by a knife-like pain behind the sternum, and by attacks of dyspnœa, both of which symptoms were slightly relieved by sitting up in bed.

There is no œdema of the ankles. Temperature normal; respirations 35.

Re piratory System—Crepitations at both bases posteriorly. Nothing else abnormal.

Abdomen—Liver enlarged to 1½ inches below costal margin; tender; also tenderness in right iliac fossa.

Cardio-Vascular System—Pulsation up to angle of jaw, arterial in origin. Pulse rapid—120 to minute—regular, water-hammer type. Blood pressure 145/40. Heart enlarged outwards and downwards. Transverse diameter 6¼ inches by X-ray, orthodiagraphically. A well-marked "to-and-fro" murmur of aortic incompetence heard. Presystolic murmur at apex; this murmur was not present on previous admission. Flint's murmur.

Urine—Heavy deposit of albumen on boiling. No cells or casts; quantity; 15 ounces on first day.

Progress—Patient reacted surprisingly well to strophanthin and rest. In five days his respiratory distress was very much diminished, but he had occasional attacks of pain. He also had a dry, irritating cough. At the end of a week his presystolic murmur had disappeared; a blowing apical systolic murmur, conducted out into the axilla, was heard. Pulse 80, respirations 20.

Crepitations still present at bases; slight œdema of the ankles.

Urine at the end of a week: fair albumen content; 1.25 by Esbach's method. Average quantity, 38 ounces per diem.

The obvious differences between Cases 2 and 3 make clear what is meant by *non-congestive* failure. This type of case is marked by the relative absence of œdema and venous engorgement, as also by the rapidly and acute progress of the symptoms. Failure of compensation in aortic disease, the heart failure of chronic nephritis, and myocardial disease are the conditions which favour the non-congestive type. While the general characteristics of heart failure are maintained, there occur rather special features in the condition, and it is of these that I propose to treat.

Of the symptoms pain and orthopnœa stand out prominently, and in addition cerebral upset of the type associated with syncope is often well marked. Dyspnœa is brought on by trifling exertion. Many patients cannot lie down, spending their nights in a chair or propped up in bed. The substernal pain is so easily elicited as to appear spontaneous in onset. In the majority of cases it is very severe, and with it is often associated an attack of dyspnœa. Incidentally, it is interesting to note that one rarely sees a patient undergoing a severe attack of pain lying down; one automatically pictures him sitting up in bed in his agony. In the consulting room if one sees a patient complaining of substernal pain who refuses to lie back for examination one's mind instantly leaps to the diagnosis of non-congestive failure.

Walking quietly along the street such a patient may suddenly be seized with an attack of faintness; his vision may become blurred and he may lose consciousness. An attack of this nature in a known heart case is suggestive of failure, but cerebral embolism of the auricular type and infective carditis must always be borne in mind.

There is a special attack confined to failures of this type, that is, to failures of the left ventricle. I refer to the so-called acute pulmonary œdema. The attack is marked by great dyspnœa, incessant coughing and a continual discharge of frothy sputum, often blood-stained, from the mouth and no trils. If left untreated the condition may be fatal in a short time. The administration of morphia occasionally acts like magic in he relief it gives. The attack may be provoked by anti-syphylictic treatment with organic arsenic. In

one case I saw the attack came on five hours after the initial injection of .3 of a gram of novarsobenzol.

Coming to the examination of the patient, inspection again is well repaid. When first seen he is sitting propped up in bed; his face is deathly pale. The dyspnœa is even greater than that of acute congestive failure. He has often a severe, exhausting cough. He does not appear restless; considering his distress, his immobility is rather striking. He is apparently mentally alert, not irritable, but from his expression is obviously anxious. His lack of response to questions seems prompted solely by an anxiety to minimise effort.

Reference has already been made to the statement that substernal pain and œdema, occurring at one and the same time, are incompatible symptoms. This is probably too broad a statement. Certainly in acute cases, when the crisis is past, œdema of the ankles is often noticed, and nearly always there is enlargement of the liver—not much, it is true—and tenderness. Ascites in the absence of other congestive symptoms is strongly against a diagnosis of heart failure. Crepitations are usually to be heard at the bases of the lungs, but hydrothorax is extremely uncommon. The urinary changes do not differ materially from those of congestive failure; cells and casts are rare.

The pulse is always rapid and, since most cases have an aortic lesion, has the characteristics of either aortic regurgitation or stenosis. The heart is dilated mainly on the left side. The presence of Flint's murmur can often be made out. Otherwise there are no very marked changes in the cardio-vascular system.

Having thus briefly, and, I fear, unsystematically, considered the manifestations of the failing heart, I will again make reference to, and greatly stress the value of the therapeutic method of diagnosis, to which the purist might object. But medicine is a hybrid science, begotten of the barber and the priest, and as such has no room for the purist. The sole justification for medicine is treatment, and diagnosis must rank only as an aid to treatment. In heart failure, as in many other conditions, early treatment is much to be desired, and if, acting on a shrewd suspicion, it be instituted, it is indeed pleasing to find the confirmation of the provisional diagnosis in the convalescence of the patient.

The Transition Period in Human Life.

By Arthur T. Cleveland M.D., F.R.C.P. Read before the Norfolk Branch of the B.M.A.

MR. CHAIRMAN AND GENTLEMEN,—It has long been recognised that there are certain milestones on the road of our physical development which divide the journey of life into definite stages, and as we pass them it can be noted that an apparently abrupt alteration has occurred in a process which was steadily progressive.

From birth to old age we are constantly changing, but the change is not evenly progressive and at certain times in our journey we seem to be altering at a more rapid rate than at others. Our progress is like that of a man who, on a long walk, runs for a quarter of mile at intervals, and it is to these stages in which a considerable change occurs within a short time that the term transition period can be applied.

Puberty and the climacteric are the two chief ones. With them everyone is familiar, and the bodily changes which occur then have always been known to exercise an influence on the general physical and mental health. But they are not the only turning points on the road, and the fact that the others are frequently unnoticed is my excuse for drawing attention to their clinical importance. The physician has not only to deal with the diseased body, but also with the normal one, and the variations of the latter are sufficiently great to make the definition of disease difficult.

Now, the alterations in health which may occur at these transition periods may be so exaggerated as to be erroneously interpreted, the error being in mistaking for a pathological condition that which is really a variant of the normal. Further, these transition periods are important in that there are times when growth or decline is rapid and there are consequently times of weakness, and so at them real disease may develop.

Of course, the vast majority of us pass through them with little trouble. It is only the few that consult the doctor, and it is perhaps because so few have occasion to do this that the physician may forget that exceptionally these periods of change may have significance.

The first of them to which I would refer occurs with the cutting of the milk teeth. Up to nine months or so the infant thrives well on bottle or breast food, but with the appearance of its teeth comes Nature's call for the first change towards the mixed diet of the adult. If this is unheeded trouble will have resulted by the time the child is 18 months old and the trouble will be mani-

fested, not only in its digestive processes—indeed, these may remain healthy—but its physical development will be distinctly retarded. I have seen several such cases, and the usual clinical picture they present is as follows :—

The child is generally an only one and consequently spoilt, and this is the starting point of the trouble. The mother says it never would feed from a spoon and she can never get it to take anything but the bottle.

It is undersized, rather anæmic, with poorly-developed legs, because it does not care to walk or crawl properly. It has a precocious expression, ts teeth are well erupted and as a rule it deserves the enconium passed by its parents upon its mental acuteness. There are rarely any evidences of rickets. It plays, but not with the robustness of a healthy child, and it has learnt little of the meaning of discipline.

Digestive disturbances may supervene and a definite " food anæmia " result, for which a variety of " patent " foods are prescribed unsuccessfully.

Home treatment is useless because the child is the master. Under the firm influence of a stranger and in the company of other children the diet can be rapidly altered, and within a few weeks the child is commencing to behave like a normal human animal.

Naturally, one flies to the endocrine glands for an explanation of these faults, expecially as experience shows us how frequently the administration of thyroid gland may modify these developmental errors, but my observation inclines me to the view that the fault is psychical as well as physical, and my greatest difficulty has always been to get the parents to realise this.

For normal growth a change in diet should have been begun, but ill discipline has interfered with natural development and consequently Nature shows her resentment.

Judged by calories and chemical analysis the pap food the child takes should furnish it with all the supplies for energy and tissue building necessary, but experience shows that from the crawling to the walking stage something in addition to liquid food is required if the child is to develop healthily, a something which at present we cannot express in scientific formulæ.

The next change occurs at about 4 years of age. Children are frequently brought to one at this age because they are getting thin. It is perfectly normal for them to do so. The baby fatness disappears as the child grows and develops its muscles, and the mother's plaint that " he used to be such a bonny baby and now he is so skinny " may not be significant of any pathological change. If he is cossetted and his diet carefully prescribed, if he is well wrapped up and not allowed to go out in an east wind and the temperature of his bedroom regulated he may soon become self centred and " soft " and be placed on the road to the development of the various psycological stigmata of the " nervous child."

Unfortunately, this not infrequently happens. At this age a lack of discipline is often very apparent. The child is naturally becoming adventurous. He is growing rapidly and is growing imitative. Just as it was important that his digestive organs should abandon infant food and accustom themselves to a more mixed diet, so at this second transition period both his body and mind require introducing to the rough world in which he will have to make his way. Because his body shows changes which are really natural, but which anxious parents think may indicate ill health, they shelter him to such an extent that he fails to acquire that robustness and self reliance which is so important for his proper development.

Of the changes of puberty it is unnecessary to say much. Parents are familiar with them, and the doctor is not likely to ignore them.

The rapid acquirement of sexual characteristics, which have been slowly forming, is accompanied by a profound alteration in mental as well as in bodily qualities. It is a period of stress both physical and psychical, and consequently it is a time of weakness. The germs of tuberculosis and rheumatism frequently take their toll at this time, and the neuropath of later years may trace the beginning of his instability to the sexual awakening of this period of his life. But there are slighter and transient disorders which may be frequently noticed. Of these a common one is dilation of the heart. In modern life we make our children learn and play on the intensive principle. Schoolmasters will urge on the clever child and speed up the dullard. Games are treated seriously.

If the child is going to be tall he will do most of his growing now. The result is exhaustion ; he is languid, tires easily and becomes irritable. A day or two's rest puts him all right. He resumes school, but in a few more days his symptoms return.

Careful examination will show signs of a dilated heart, which under suitable treatment entirely pass off.

Chorea, hysteria and the mental symptoms of overwork are common at this age because the growth of the body is a tax on the mind as well as on the muscles.

The barking cough of puberty may be a source of anxiety, as it starts the dread of consumption in the parent's mind, but its characters are so unlike those of a true lung cough that it should not deceive the doctor.

Fainting, especially in church, is a familiar nervous phenomenon and is as common among boys as girls, and has nothing to do with heart disease. A slight albuminuria may be found without any of the symptoms of nephritis.

After puberty a man develops fairly steadily and I have not noted any particular transition period until middle age, but in the female the approach to 30 is often a critical time in single women, and I have been much struck by the number who develop obscure symptoms—generally abdominal—at this age. The complaint is thought to arise from the appendix, the ovary, the colon, the heart and, lastly, the nerves, and although the patient may be quite unconscious of her failure and no " sexual complex " enter into her thoughts yet it is not unreasonable to conclude that the disuse of such a complicated physiological mechanism as the female generative system, combined with the restricted opportunities of a spinster's life, may produce a disorder of function which is closely akin to disease.

Here, again, the internal secretion of the endocrine glands may play a part, but the administration of extracts of them will not cure the patient. Her ailment and her attention is concentrated more and more on sensations which arise from a disorder of function rather than from a disease of an organ. She feels generally " out of sorts," and so loses interest. Introspection and anxious parents may quickly convert her into a chronic invalid.

In women the maternal instinct is much stronger than is the paternal in man, and our social customs still give marriage a larger and more important role in the future of a young woman than in that of a young man. Consequently, disappointmentamay have a greater effect on her.

Her generitive organs have an important and far-reaching nfluence on her physical and mental health. They interact with others and, if there is anything in the modern theory of internal secretions, then it seems to me only rational that the failure to put them to the uses for which Nature intended them should result in some disorder of their function, and with them those of many other organs.

It is not necessary to seek an explanation for these manifestations of disappointed Nature in the mind of the sufferer. Into the mentality of some women " sex problems " do enter largely, but they are a small minority, and the great majority may get into a state of ill health at this time of their life without being conscious of the cause.

The danger lies in their being treated too thoroughly. By concentrating their attention first on one organ and then on another, they are turned into chronic neurasthenics—a curse to themselves and others.

If they can be got to realise that their remedy lies in getting an interest in life and sticking to their work and looking out and not in, they will find that in a few years they will have passed successfully through a period of transition.

The menopause in women is too well known to require more than a mention. At the actual " change," as it is called, the chief stress falls on the nervous system, and the symptoms of this transition period are mainly psychical, apart, of course, from the usual uterine derangements, but I have noticed that a great many women fail in health during the five years that follow. " Rheumatism " and " neuritis " are the commonest complaint, and are generally accompanied by an increase in weight.

The rheumatism may be arthritic, in which case the extra weight helps to embarrass the already painful knees, or is more often of the muscular type and probably associated with a neuritis or fibrositis. In this connection it is interesting to remember that in " adiposis dolorosa " the pads of fat are generally extremely tender, and this disease is undoubtedly connected with changes in the pituitary gland. I think it is a fair inference to ascribe these rheumatisms and nervous aches occurring in women of 50–55 to an upset of internal secretion resulting from atrophy of the ovaries and uterus.

Sometimes glandular extracts do relieve these disabilities, but more often they fail, possibly because we cannot yet administer them in suitable form or, more probably, because we are dealing with a change too complicated for our knowledge and laboratory methods to deal with.

Among men there is undoubtedly a sudden ageing in the fifth decade. It varies greatly with the individual, and there are many to be found whose physical and mental powers disprove this statement, but there are plenty of others who confirm it. That entertaining lecturer and experienced observer, Sir George Savage, used to tell us, among many other striking *obiter dicta*, that as the woman retires from menstruation the man retires from business.

The exaggeration may be excused if the aphorism reminds us that there is a more or less abrupt mental and physical change to mark a man's passage through the fifties.

In childhood many of our illnesses arise from poisons we take into our system, in old age from those we fail to turn out, and as middle age advances the metabolism which results in proper excretion begins to fail.

With this comes a loss of elasticity in our arteries, in our lungs and in our minds, and although the exceptions to the rule are numerous, yet there are more whose friends realise that the change which has in reality been slowly approaching has become manifest with sufficient rapidity to justify calling middle age a transition period.

Another change is very common as 70 is approached, and one which may very easily lead to a wrong diagnosis. A description of it is best given by an illustration from my notes. A man of 69 complained of some loss of energy, a decided loss of weight during the last few months and constipation. A slightly built man, he had never weighed more than 9½ stone until he turned 50, then he rapidly grew comparatively stout and maintained a constant weight of about 12 stone. His climateri was limited to this physical change and was unattended by any loss of business ability.

Naturally, the history he gave made one think of a growth in the bowel, but the most thorough examination revealed nothing. His constipation gradually cleared up, but his weight never increased, and he has remained thin with an old man's skin, and though now well advanced in years his appearance has not altered greatly since the year when he suddenly began the sixth stage of "this strange eventful history."

Sometimes stomach symptoms take the place of the constipation of my patient, and I have several times seen such people definitely labelled cancer.

I feel that these observations need an apology. They could be so easily dismissed as platitudes were it not that experience shows that they are often forgotten.

Modern pathology would ascribe all the changes to which I have referred to alterations of internal secretions, but, while not denying the truth of this, I maintain it is no explanation. If changes in the endocrine glands are the cause of these bodily and mental changes, what is the cause of the cause? We know that the activities of the tubercle bacillus cause phthisis, but we do not know why it produces the disease in some people and not in others. We talk of lowered resistance and predisposition, but that is only explaining the unknown by the unknown.

The changes in our body which mark its growth and decay are regulated by laws of which we can only see the outward and visible signs.

Our physiology and pathology teach us how and when these laws act, but they do not answer the eternal question of mankind—Why?

Behind all our civilised exterior is that subtle force which we call Nature, and, as the wise Latin writer said many hundreds of years ago: "You may drive out Nature with a pitchfork, but, nevertheless, she will always return."

I often think that the fault of the medical profession of to-day is to be too scientific. We judge our patients by the rules of our laboratory researches and not the researches of the laboratory by our patients.

The charm and interest of the practice of medicine is that it is an art and not a science, and until we know a vast deal more of Nature than we do at present we must always keep before us the wise saying of Plato: "Medicine is an art which considers the constitution of the patient and has principles and reasons of action in each case."

A Case of Suicide.

RECENTLY I gave evidence in a case of suicide with some points of interest. The deceased was an old and worn out man of 75, with rather advanced heart failure. He used to come to me and complain that he was suffering from cancer of the penis. On the first occasion on examination all that I found wrong was more smegma than usual. I assured him there was nothing more than could be cured by soap and water, and that he need not worry about it. But he did, and very soon he came again with exactly the same fixed idea. This happened several times in the course of perhaps six months.

Then one day I was asked to inspect the body of a man who had hung himself, and I found he was my old patient.

He had been found dead suspended by a leathe strap, about an inch wide, with his feet and knees on the ground. There was a distinct depression all round the neck, corresponding to the strap, but the usual signs of death by suffocation were almost absent. There was a little duskiness of the face and slight, but quite decided, blueness of the finger nails, but no distortion of features or ecchymosis.

In my evidence I gave an opinion that probably the real cause of death was not suffocation, but heart failure from shock. I remember Mr. Jacobson used to say that anything amiss with the male genital was very likely to cause mental trouble.

J. H. GIBSON.

Correspondence.

Daily Papers in the College.

DEAR SIR,—May I draw the attention of those living in the College to the fact that the daily newspapers which are placed on the Residents' table at breakfast every morning are purchased through the Residents' Fund and are for the use of Residents only?

It is therefore requested that they are not removed from the Residents' table by non-Residents.

Yours faithfully,

S. C. H. LANE,
President of Residents.

Guy's Hospital,
London, S.E.1.
April 9th, 1928.

'89 Club's Annual Dinner.

DEAR SIR,—The Guy's '89 Club is holding its 32nd Annual Dinner at the Hotel Cecil on Wednesday May 9th. Will all members keep this date open and help the Hon Secretary to make the meeting a success? Notices will be sent out this month. It is hoped that Dr. Parry-Jones will be in the Chair.

Yours faithfully,

GERALD S. HOVENDEN.

Glebeholme,
Barnes S W.13.
April 3rd, 1928.

Landon Out-Patient Tea Fund.

Statement of Receipts and Payments for the year ended March 1st, 1928.

RECEIPTS	£	s.	d.
To Donations and Collections (as per List)	107	2	7
„ Interest on Invested Funds and Deposit	9	2	6
	£116	5	1

PAYMENTS	£	s.	d.
By Cost of Tea, Groceries, Provisions, Fruit, etc.	27	6	4
„ Band	12	12	0
„ Gifts of Toys, Clothing, etc.	16	10	3
„ Police Fees, Gratuities, etc.	8	11	0
„ Printing, Postages, etc.	4	10	3
„ Decorations, etc.	1	13	4
	71	3	2
„ Balance, being Excess of Receipts over Payments	45	1	11
	£116	5	1

BALANCE SHEET, March 1st, 1928.

LIABILITIES	£	s.	d.
Accumulated Funds—			
Amount brought forward from last Account	299	12	11
Add—			
Excess of Receipts over Payments	45	1	11
	£334	14	10

(Signed) B. MARTIN,
Treasurer.

Salomons Welfare Centre,
Guy's Hospital, S.E.1.

ASSETS	£	s.	d.	£	s.	d.
Investments—						
5% War Loan at Cost				150	0	0
Cash at Bankers—						
Deposit Account	175	0	0			
Current Account	19	14	10			
				194	14	10
				£334	14	10

Audited and found correct.
(Signed) W. J. CURRY,
Corporate Accountant, Auditor.
March 21st, 1928.

Reviews.

Green's Manual of Pathology. 14th Edition. Revised and Enlarged by A. PINEY, M.D., M.R.C.P. Published by Messrs. Baillière, Tindall & Cox. *Price* 21*s.*

THE 14th Edition of *Green's Manual of Pathology* maintains the general features of previous editions, and, with certain alterations, differs but slightly from the completely re-written edition of 1917.

The value of the work has been increased by the addition of several new illustrations and coloured plates, and certain chapters have been added or revised, notably those on nephritis.

The chapter on animal parasites has been subjected to certain corrections, but the "crab louse" is still classified with pediculi, whereas it is actually the phthirius inguinalis, belonging to a distinct species, and so differs in form and characteristics from the pediculus.

Protein and auto-intoxication are dealt with too briefly to be of more value than an introduction to the subject, and the account of the secretions of the ductless glands is incomplete. For example, no accurate distinction is made between the abnormalities of secretion of the individual lobes of the pituitary gland; exophthalmic goitre is described as a pure hyperthyroidism, rather than a dysthyroidism, and the internal secretions of the ovary and testis receive but scant mention.

The section on tumours has been subjected to few changes. The recent investigations of Gye and Barnard on the filterable virus of carcinoma have been added, but "cancer bodies and parasites" are still discussed at length. Teratomata and dermoids, however, are dismissed in half a page and the interesting tumours of the testis receive no mention at all.

"Shock" is considered in a new chapter, which gives the most recent views on this difficult subject, and the chapters on the pathology of the nervous system provide a clear and concise account of an intricate study.

Green's Manual of Pathology needs no reintroduction, and the fourteenth edition, revised by Dr. Piney, is a worthy memorial to the traditions of the late Dr. Green.

Probably no single manual on general pathology and morbid anatomy contains so much information.

Athletic Club.

THE Annual Sports Meeting of tue Athletic Club will be held on Saturday, May 26th, at Honor Oak Park.

It is hoped to get a much larger entry and more support than has been possible in previous years when the Sports have been held on a week day. A list of events will be posted up in the Colonnade shortly after Easter, on which competitors may make their entries. New students are especially asked to enter, for the Club will depend largely on fresh talent if the Championship of the United Hospital's and of the University of London are to be retained. The officers for the following season are :—

President—
Dr. Herbert French, C.B.E., M.D.

Secretaries—
F. Allott and R. A. P. Hogbin.

Treasurer—
S. D. McClean.

Committee—
S. P. Smith, J. W. Small, J. W. Eustace, W. Hertzog, C. W. Harrison, D. B. Bergh, F. F. Kennedy, R. S. Thomas, T. M. Calhaem, D. B. Smallshaw, T. O. Garland.

Guy's Hospital Gazette.

The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

Advertisement Rates on application to "The GAZETTE Manager," Counting House, Guy's Hospital, S.E.1. Telephone: Hop 1086.

GUY'S HOSPITAL MEDICAL SCHOOL.

TIME TABLE. SUMMER TERM, 1928.

SUBJECTS FOR FINAL EXAMINATION. MEDICAL.

Subject	Lecturer	Days and Times	Place	First Class or Lecture
Bacteriology	Professor Eyre	Lectures. Tues. Weds. and Thursdays at 12.15 p.m. Practical. Mons. Tues. Weds. Thurs. Fridays and Saturdays at 9.15 a.m.	Pathol'cal Theatre Path'cal Class Room	Tuesday, April 17th Wednesday, April 18th
Psychological Medicine	Dr. Gillespie	Lectures. Weds., at 9.30 a.m. Demns'tions, Weds. at 3.15 p.m.	Physio'cal Theatre Bexley Men'l Hosp.	Wednesday, May 2nd Wednesday, May 2nd
Forensic Medicine	Dr. Ryffel	Thursdays at 4.30 p.m.	Class Room 3	Thursday, May 3rd
Operative Surgery	Mr. Hughes	To be arranged	Op. Surg. Class Rm.	Fri., May 18th at 12 noon
Revision Classes				
Medicine	Dr. Conybeare	Tues. and Friday at 9.30 a.m.	Class Room 3	Friday, May 18th
Midwifery	Mr. Chapple	Tues. and Thursday at 2 p.m.	Queen Ward	Tuesday, May 15th
Surgery	Mr. Ogilvie	Wed., Thurs. & Sat. at 9.30 a.m.	Class Room 3	Saturday, May 19th

ORGANIC CHEMISTRY, ANATOMY, PHYSIOLOGY AND PHARMACOLOGY.

Subject	Days and Times	Place	First Class or Lecture
Organic Chemistry (2nd M.B. Part I.)	Lectures. Weds. & Fridays 9.30 a.m. Practical. Mons. & Thurs. 10 a.m.	Chemistry Theatre Chemistry Laboratory	Wednesday, May 2nd Thursday, May 3rd
Anatomy	Elementary Lectures. Mons. 9.30 a.m. Weds. 11 a.m. Practical Anatomy. *Daily from 9.30 a.m. to 5 p.m.* Revision Classes. To be announced later Normal Histology. Tues. & Thurs. at 2 p.m.	Anatomical Theatre *Dissecting Room* Demonstration Theatre Histology Laboratory	Wednesday, May 2nd Tuesday, May 1st To be announced later Thursday, May 3rd
Physiology	Chemical Physiology. Fri. 11-1 p.m. Experimental Phys'logy. Weds. 11-1 p.m. } Revision for M.B. Candidates Physiological Histology. Mons. 11-1 p.m Clinical Physiology (All Students). Thurs 12-1 p.m. Practical Revision Classes for candidates for Conjoint Examination, to be arranged	Chemical Physiological Laboratory Experimental Physiological Laboratory Experimental Physiological Laboratory } To be announced later Clinical Theatre	Thursday, May 3rd To be announced later
	Tutorial Classes, Elementary. (Junior Medical Students.) Advanced. (All Senior Medical Students.)	To be arranged at a General Meeting of Medical Students attending courses in Physiology, to be held in the Physiological Theatre on Thursday, May 3rd, at 11 a.m.	
Pharmacology	Mons. 4 p.m. Fridays, 1.15 p.m.	Physiological Theatre	Friday, May 4th

CHEMISTRY, PHYSICS AND BIOLOGY.

Course	Subject	Lectures	Place	Practical Classes	Place
Pre-Medical Conjoint	Inorganic Chemistry	Tues. & Thurs. 9.30 a.m. First Lecture, Thursday, May 3rd.	Chemistry Laboratory	Tues. & Thurs 3-5 p.m., First Class, Thurs., May 3rd When no Lecture Practical Class 2-5 p.m.	Chemistry Laboratory
	Organic Chemistry	Tues & Thurs. 2 p.m. First Lecture, Thurs., May 3rd.	Chemistry Theatre		
	Physics	Light & Sound. Tues. & Thurs. at 10.50 a.m. Heat. Tues. at 12 noon. First Lecture, Tues., May 1st.	Class Room IV.	Mons. 10-1 p.m. and 2-5 p.m. First Class, Mon. May 7th.	Physics Laboratory
Conjoint	Biology	Weds. & Fridays, 9.30 a.m., First Lecture, Wednesday, May 2nd.	Biology Laboratory	Mons. & Fridays 2.30 p.m. First Class, Fri. May 4th	Biology Laboratory
M.B. London	Inorganic Chemistry	Tues. & Thurs. 9.30 a.m. First Lecture, Thurs., May 3rd.	Chemistry Theatre	Mons. 10-1 p.m., Tues. 2-5 p.m. First Class, Mon., May 7th	Chemistry Laboratory
	Physics	Light & Sound. Tues. & Thurs. 10.50 a.m. Heat. Tues. at 12 noon. First Lecture, Tues., May 1st.	Class Room IV.	Thurs. & Fridays 2-5 p.m. First Class, Thurs. May 3rd	Physics Laboratory
	Biology	Weds. & Fridays, at 9.30 a.m. Thurs. at 12 noon, First Lecture, Wed., May 2nd.	Anatomical Theatre	Weds. & Fridays at 10.30 a.m. Sats. 11 a.m. First Class, Wed., May 2nd	Biology Laboratory

Hospital Information, etc.

Pass List.

University of London.

2ND EXAMINATION FOR MEDICAL DEGREES

PART I

March, 1928

T. P. Binns	K. R. D. Coles
E. H. de B. Crowther-Smith	P. M. Deville
R. T. Elven	G. Gilchrist
K. J. Gilchrist	W. W. Jones
M. J. F. McArdle	D. McGregor
J. A. W. Miller	W. S. Pitt-Payne
G. C. Post	A. G. Potts
R. G. R id	S. B. Smith
R. L. Soper	W. P. Stamm
G. H. Taylor	J. Tudor
S. W. Wright	G. C. Sawyer
A. R. F. Thomspon	

PART II

G. Barwell	W. H. Bradbeer
A. R. Clarke	G. J. Clarke
H. A. Constable	A. I. Gorer
K. Harris	D. W. James
S. Lefcovitch	G. A. M. Lintott
H. G. McComas	R. W. McNabb
J. W. Oliver	J. R. F. Popplewell
G. W. Rake	L. K. Robson
R. N. C. Smith	K. S. Southam
T. F. Todd	

Appointment.

James A. Hudson, L.D.S., appointed Dental Surgeon to Redhill Hospital, Edgware, Middlesex.

Change of Address.

Alfred Alexander, "Barrymore," Steyning Avenue, Peacehaven, Sussex.

V. R. Preen, 211, Florida Road, Durban, Natal, S.A.

Papers by Guy's Men.

F. D. Saner, M.B., F.R.C.S. Transcondylar Fractures of the Humerus in Children, *Lancet*, 1928, i, 698.

T. Izod Bennett, M.D., F.R.C.P. Recent Advances in the Treatment of Pernicious Anæmia, *Clin. Jour.*, lvii, 1928, 157.

—— Goulstonian Lectures on Some Problems of Nephritis. Lecture III—Blood Pressure in Nephritis, *Lancet*, 1928, i, 741.

R. O. Moon, M.D., F.R.C.P. Angina Pectoris and Its Treatment, *Practitioner*, cxx, 1928, 220.

G. B. Dowling, M.D., F.R.C.P., and J. M. H. Macleod, M.B., F.R.C.P. An Experimental Stud of the Pityrospoon of Molassez: Its Morphology, Cultivation and Pathogenicity, *Brit. Jour. Dermat. and Syph.*, xl, 1928, 139.

Births.

FOURAKER—On April 11th, 1928, at Oakdene, Coulsdon, Surrey, to Edna, wife of Edgar W. Fouraker—a daughter.

Marriages.

TAYLOR—BROWN—On Tuesday, March 20th, at Old Malden Church, Surrey, A. Churton Taylor, M.R.C.S., L.R.C.P., to Miss L. E. Brown.

LONGHURST—McMAHON—On February 18th, at St. Paul's, Clifton, Harriette Dora, only daughter of the late Mr. and Mrs. James McMahon, Co. Limerick, and grand-niece of Viscount Fitz-Gibbon, Earl of Clare, to George Bunnell, only son of Dr. and Mrs. Longhurst, Walton-on-Thames, and grandson of the late Sir Bell Longhurst, C.V.O.

Notices.

Guy's Hospital Medical School.

THE FOLLOWING AWARDS HAVE BEEN MADE

Examination for the Golding-Bird Gold Medal and Scholarship in Bacteriology, March, 1928—

C. F. Cosin, *Medal and Scholarship.*

Examination for the Wooldridge Memorial Prize in Physiology, March, 1928—

A. R. Clarke, *Prize.*
H. G. McComas, *Certificate.*
T. F. Todd, *Certificate.*

Examination for the Junior Proficiency Prizes, 1927–28—

First Prize, A. R. Clarke.
Second Prize, T. F. Todd.
Third Prize { W. H. Bradbeer, R. A. Q. Lay,

Examination for the Michael Harris Prize in Anatomy, March, 1928—

A. R. Clarke, *Prize.*
W. H. Bradbeer, *Certificate.*
T. F. Todd, *Certificate.*

EDS. { O. P. E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLII. *May 5th, 1928.* *Number 1038*

PASSIM

THE unusual exhuberance of our advertisement pages may have suggested that this is intended to be a special number. The publisher seems to believe that in the Spring a student's fancy lightly turns to thoughts of books, and although we grieve to confess that our own fancies too often turned that way only as the actual test was but a few weeks off, we would exclaim, with the slight wisdom gained of bitter experience, that sweet are the uses of advertisement, and how very often a good book in time may save nine—months.

Books, of course, now play a large and ever increasing part in the life of the medical student. To a few they become almost the life itself; they are not to be deserted even at meal times, and are to be sought in Charing Cross Road as a form of recreation. With others, they satisfy that acquisitive instinct inherent in mankind; they are collected, arranged and shelved, like so many foreign stamps, and are well paraded, but rarely read. To some they are merely the stepping-stones to a desired end; each is devoured with avidity, but without criticism, and chosen more for bulk of knowledge than for the ingenuity or quality of its presentation and arrangement.

Legal books are notoriously both expensive and dull in the reading. Medical books undoubtedly share the first distinction, but not all of them may be condemned to the second. Fortunately, the day when medicine may come to rank as an exact science is still far distant, and until that time there is ample scope for the writer who can weave into his texture of fact a beauty of form or an aptness of expression which in its stimulation of our literary palate serves both to call forth our admiration and to impress the more deeply upon our minds the knowledge we were intended to acquire. Looking back we call to mind with what sound philosophical sugar Mellor managed to bind his chemical pill, how Frazer clothed the dry bones of the human skeleton with an all-absorbing interest, with what uncanny skill Gaskell could produce a physiological monograph as breathless in the reading as any detective yarn, how pathology in the hands of Bland Sutton became an exciting gallery of the curious, a sort of medical Madame Tussaud's, or how well an essay on constipation of all things lent itself to presentation in almost epic form. We remember, too, with gratitude the graceful prose of the older Osler, and mourn not a little what has been lost in the course of an inevitable revision.

Apart from purely medical books, we have always been impressed by the wealth of clinical observation to be sifted, not only from the pseudo-psychological trifles that form the greater part of the light literature of the moment, but from almost all important fiction. Smollett comes at once to mind, and from *Jane Eyre* even to *Jew Suss* there is no escaping the jargon of our craft.

We would commend readers to turn from the publisher's announcements to our review columns past and present, wherein we endeavour to provide the guidance that will assist in the selection of those books to be tasted only, and of those to be swallowed whole, from the few which deserve a thorough mastication and complete digestion.

▭

ON the morning of Tuesday, April 24th, Professor Snapper, of the University of Amsterdam, gave a clinical lecture at the Hospital. His brilliant address on a case of Addisonian anæmia of an atypical type was much appreciated by all present, especially as Dr. Snapper was able to speak in almost faultless English. We understand his visit to London to be concerned with a communication to the Royal Society of Medicine, so that the delivery of a lecture at Guy's must have involved the sacrifice of much of the personal leisure connected with his stay in town. Dr. Hurst ably expressed the thanks of the audience at the conclusion of the lecture, and congratulated the Professor on the excellence of his extempore effort.

Among the many and varied activities of the Employees' Association are the popular lectures delivered from time to time by members of the Hospital Staff on subjects of general rather than medical interest. The talk on "Life in the Deep Sea," given by Mr. T. J. Evans, to a meeting of the Association held last week proved most entertaining. Mr. Evans' ability as a lecturer is well known, and his work as a marine biologist much less than it deserves. To take an audience into such deep water and yet not totally out of their depth is no mean feat, but Mr. Evans managed it all quite easily. Some of the weird creatures living in the cold darkness of the great depths seemed to possess the most novel lighting arrangements, ranging from dipping head lamps to port and starboard lanterns in the appropriate colours. We quite expected Mr. Evans at any minute to produce a fish with a rear light and a number plate, but apparently traffic congestion is not acute in these cheerless regions.

Fleet Street is much perturbed about the safety of kissing. Correspondence columns bristle with suggestions which vary from a pocket prophylactic outfit of iodine and brush to medicated gauze, but even with these drastic measures apparently danger still lurks in this unfortunate habit. We regard it as a public duty of the principals in the recent production of our Musical Society to divulge the secret of their remarkable immunity. Perhaps it consisted in repeated vaccination during rehearsal.

We are asked to announce that the Annual General Meeting of the Guy's Hospital Ladies Association will be held in the Court Room on Thursday, May 17th, at 3.15 p.m. Sir Rowland Blades, Bart., G.B.E., M.P., has kindly consented to take the chair. By invitation of the Governors of the Hospital and the Matron, tea will be provided in the Nurses' Home after the meeting, and the Wards, X-Ray and Massage Departments will be open for inspection by visitors. There will be an exhibition of work by various branches of the Association, and all members are cordially invited to bring friends who may be interested.

The following Appointments have been made :—

House Physicians—
To Dr. Hurst, Mr. G. W. Rake.
Dr. Mutch, Mr. J. K. Moore.

House Surgeons—
To Mr. Steward, Mr. D. E. Dunnill.
Mr. Rowlands, Mr. R. de Bruyn.

Obstetric Resident—
Mr. S. I. Abrahams.

Children's House Physician—
Mr. E. Clayton-Jones.

Throat and Ear House Surgeon—
To Mr. Mollison, Mr. L. G. Pitt Payne.

Out-Patient Officers—
Messrs. W. F. Hudson, W. S. McConnell, O. Plowright, J. R. Rickett.

Assistant House Surgeons—
To Mr. Hughes, Mr. D. Ellis.
Mr. Davies Colley, Mr. T. G. Scott.
Mr. Bromley, Mr. C. R. E. Freezer.
Mr. Slesinger, Mr. E. M. B. West.
Mr. Ogilvie, Mr. H. I. Maister.

Clinical Assistants—
Throat Department—
To Mr. Mollison, Messrs. N. E. Kendall, R. M. Williams.
Mr. Layton, Messrs. N. E. Pitt, F. S. Warner.

Dermatological and V.D. Department—
Mr. N. L. Lloyd.

Ophthalomological Department—
Mr. N. H. Allen.

Children's Department—
Mr. S. C. Lewsen.

Tuberculosis Department—
Mr. N. E. Pitt.

Reunion Dinner of Territorial Medical Officers.

It has been decided to hold a Reunion Dinner, open to all past and present Territorial Medical Officers, including *a la Suite Officers*, under the auspices of the Territorial Army Medical Officers' Association. This dinner will be held on May 11th at the Connaught Rooms, Great Queen Street, London, W.C.1, at 7.30 p.m., with the President, Major-General Sir Richard Luce, K.C.M.G., in the Chair.

Lieut.-General Sir Matthew H. G. Fell, K.C.B., C.M.G., K.H.P., Director-General, Army Medical Services, has promised to be present, and it is hoped to have a really representative gathering of old friends and comrades, and as the President is an old Guy's man it is also hoped that this Hospital will be well represented.

Evening dress with Orders will be worn. The price of the tickets, exclusive of wine, will be 12*s*.

For tickets apply to the Secretary, Territorial Army Medical Officers' Association, 36, Russell Square, W.C.1.

Branchial Cysts and Fistulæ.

A Clinical Lecture by C. H. Fagge, Esq., M.S.

GENTLEMEN,—The subject of my lecture to-day is exemplified by the two following cases. W—— B——, aged 18, was admitted in March, 1928, with a small, hard swelling in the mid-line of the neck at the level of the upper border of the thyroid cartilage. It is the size of a marble, moves on swallowing and is not attached to the skin. This had been noticed for four months, and increase had been gradual.

On March 15th, under intra-tracheal ether, a curved collar incision was made in the line of the hyoid sulcus. The swelling was freed and its pedicle was seen to extend upwards behind the hyoid bone. The body of the hyoid bone was divided on either side of the mid-line, and the intervening segment was freed in one piece with the stalk of the cyst. This stalk did not extend beyond the level of the hyoid bone, and by division of the connective tissue round it the cyst was removed. On dissection it was found to be filled with thick opalescent fluid, shimmering with cholesterin crystals, and a probe passed into its stalk showed that this ended blindly. The wound was closed with Michel's clips. The clinical microscopist reported that the cyst was lined by atrophic squamous epithelium.

A girl, aged 7, was admitted into Martha in 1926 with a minute sinus in the neck; this was situated about one inch above the right sterno-clavicular joint, and discharged intermittently. Nothing abnormal could be felt in the neck; the sinus had been noticed for several years, but was certainly not present at birth. On the diagnosis of branchial fistula an incision was made along the anterior border of the right sterno-mastoid, so that its lower end included the fistulous opening. The track was dissected up and found to cross over the bifurcation of the common carotid artery; then, passing over the looping hypoglossal nerve, to enter the pharyngeal wall between the superior and middle constrictor. Here it was lost and its stalk was ligatured; the wound was then sutured. When she left the hospital it was noted that the resulting scar was still unsightly.

In considering the origin of branchial cysts and fistulæ we must recall the development of the primitive pharynx, which is chiefly formed from the fore-gut, and therefore lined with hypoblast. It has on its wall four thickenings, separated by intervening grooves, visible both externally and internally. These, the so-called branchial clefts, which represent the gill clefts of the fish, are never complete in man. In the embryonic pharynx each external cleft depression is separated from the corresponding internal cleft, so that each "cleft" or more properly recess, is bounded externally by a layer of epiblast, between which and the hypoblast of the pharynx is a small amount of mesoblast.

We shall only follow the development of the pharynx so far as it bears directly upon the question under consideration. In the middle line the ventral ends of the first and second arches fuse to form the greater part of the tongue; immediately behind this there passes down into the neck the diverticulum, from which the thyroid isthmus is developed. Diverticula, derived from the internal pharyngeal recesses, pass into the neck, those derived from the fourth form the lateral lobes of the thyroid gland. As the embryo grows, the second or hyoid arch grows backwards over the third and fourth arches to enclose a space called the cervical sinus; it is similar to the operculum which, in the fish, closes in the gill arches. This cavity and its external opening should normally disappear, but it may persist as a long, trumpet-shaped track, which ends in the region of the tonsillar forsa. If this has both internal and external openings a *complete branchial fistula* results. Should the inner opening close, the fistula has an external opening one inch above the inner end of the clavicle. This is known as an *incomplete branchial fistula*, but if both openings disappear a *branchial cyst* of variable size results, situated immediately below and behind the angle of the jaw.

It must now be pointed out that these errors of development manifest themselves clinically in four ways:—

(1) A cyst formed from the medial thyroid diverticulum will occur somewhere between the thyroid cartilage and the base of the tongue. It will be tense, thick-walled, non-translucent and will move on swallowing.

(2) A median fistula, usually lying at the bottom of a depressed adherent scar, and situated between the thyroid cartilage and the upper border of the sternum. This discharges intermittently a thin watery fluid.

(3) A lateral branchial cyst is situated anterior and rather deep to the anterior border of the sterno-mastoid, immediately behind and below the angle of the jaw. As it enlarges it passes backwards under the sterno-mastoid.

(4) A lateral branchial fistula which is always a small weeping orifice on the anterior border of the sterno-mastoid about one inch above the clavicle.

I should reserve the term branchial sinus for a persistent track opening externally, resulting from an unsuccessful operative endeavour to excise a branchial cyst or fistula. Whether an error of development exists in the form of a cyst or sinus, it rarely comes to the patient's notice until adolescence. It is said that branchial cysts are more common in males than females.

The lateral branchial cyst is usually a round, smooth, painless swelling, which usually does not fluctuate because of its thick wall, is not attached to the skin and is not translucent. The median thyro-glossal cyst has exactly similar characteristics and, in addition, moves with the hyoid bone on deglutition. Da Costa in his *Modern Surgery* denies that these branchial cysts are dermoids because they contain only one layer of the blastoderm, but Hamilton Bailey (*British Journal of Surgery*, Vol. X, No. 40, page 265) reported 63 cases, of which 42 were examined histologically, and he states that the true cyst wall is surrounded by nodules of lymphoid tissue. In 41 the epithelium was squamous and in one columnar. Fraser (*Surgery of Childhood*) tries to differentiate between branchial cysts and dermoids without making any clear distinction either embryologically or clinically. He states that branchial cysts contain clear watery fluid, which does not agree with the considerable clinical evidence of Hamilton Bailey's cases.

I see no essential difficulty in the fact that thyroglossal and branchial cysts, though derived from the pharyngeal recesses, and therefore hypoblastic in origin, are so far, as I know, uniformly lined by squamous epithelium; for the pharynx from which they are derived has a similar epithelium, though, from the developmental point of view, we might suspect it to be columnar.

I think we shall best understand these cysts and fistulæ if we regard them as dermoids. The contents of these cysts, whether median or lateral, is a thick and opaque fluid full of cholesterin. An external fistula usually discharges a thin fluid, but when such a fistula reopens after having been temporarily closed cholesterin should be obtained from the discharge.

As a rule it is impossible to know whether a complete branchial fistula exists—*i.e.*, whether an external fistula has also an internal opening. I have only met with one such case, which was that of a boy who came under treatment for a sinus in the lower part of the anterior triangle of the neck, which discharged intermittently. After much difficult dissection this was found to communicate with the external auditory meatus at its deepest part, and I then recalled the father's statement that discharge from the sinus in the neck alternated with discharge from the ear.

Both in the form of cysts and as fistulæ these embryonic remains will be confused with breaking down tuberculous glands or sinuses resulting from secondary infection of such glands. Now, the first point which should influence one in the differential diagnosis is the fact that tuberculosis of a lymphatic gland is an infinitely commoner disease than the presence of a branchial cyst. It may help us further to remember that a branchial cyst is a single swelling, whereas tuberculous glands are as a rule multiple; either may fluctuate, but definite deep-seated fluctuation is in favour of a branchial cyst. A cystic hygroma or hydrocele is less likely to be confused with a branchial cyst, for these lymphangeiomata manifest themselves soon after birth, and are most common in the posterior triangle of the neck. They are soft and ill-defined, giving the sense of being incompletely filled and are, as a rule, multilocular. I can scarcely think that a deeply-seated hæmangeioma or a subfascial lipoma would give rise to much difficulty in differential diagnosis. Undoubtedly these cysts or their resulting fistulæ are usually confused with tuberculous glands or their results, and, in my opinion, it is better to regard a branchial cyst as a breaking down tuberculous gland than to make the converse mistake, which would suggest that one failed to realise the extreme rarity of branchial cysts.

Of the complications which may ensue I have little to say; infection is not uncommon, but rarely goes on to suppuration. A fistula may form as a result of a spontaneous rupture of a cyst with or without suppuration, and a sinus is not an uncommon sequel of a half-hearted endeavour to remove a cyst. A much debated sequela is the growth of cancer in a branchial cyst. In all so-called branchio-genetic cancer which I have seen there has been a primary "silent" epithelioma in the pyriform fossa, to which the cervical mass was secondary. Bland Sutton's opinion that it is pure fiction is entirely supported by my clinical experience.

The treatment of either of these cysts or the resulting fistulæ is excision. For the former the incision may be hidden in one of the cervical creases; for the latter it must necessarily be more or less vertical, and therefore unsightly. Good exposure, careful dissection with a sharp scalpel and sound anatomical knowledge should enable the surgeon to excise the cyst completely or the whole of a fistulous track. I have not had to operate

a second time on any thyro-glossal duct remains since I divided the hyoid bone so as to enable me to see clearly whether the stalk extended under the tongue; the bone unites readily, and I have never noticed any functional disability result. That many other surgeons carry out this practice will be evident from an article on this subject by Sistrunk (*Surgery, Gynæcology and Obstetrics*, Jan., 1928), but I have not found in any of my operations, as that writer suggests, that the stalk of the cyst may extend right through the tongue to the foramen cæcum.

Intelligence: Its Nature and its Measurement.

A Paper by R. D. Gillespie, M.D.

(*Concluded*)

MENTAL TESTS

IT is Binet and Simon, two Parisian psychologists, to whom the credit belongs of first devising a workable method of intelligence testing. Theyhad been asked to formulate a scheme which would assist in detecting mental deficiency among the school children of Paris.

Their achievement had several merits:—

(1) They devised a series of tests of mental ability which were applicable to all ages after the first two years of life.

(2) The results of the tests could be expressed as a numerical score.

(3) They devised a standard against which the mental ability of all children at least could be measured.

(4) The tests were directed as far as possible to innate mental ability and not to testing what had been learned in school. In other words, the tests on the whole are of "native wit" and not of acquired information. This constitutes one of their great advantages. They are partly for this reason better indices of intelligence than the ordinary kind of examination, which tests information as much as, if not more than, actual intelligence. In fact, it has been found that the tests not only help to discover the backward child, but also the brilliant one. Paradoxically enough, there occasionally are children who appear backward because they are in fact supernormally intelligent. The work of the class in which they happen to be simply does not interest them enough; advanced a year or two in school ahead of their age such children are found to blossom in their work in a surprising way. Similarly, although there are many adults who cling tenaciously but insecurely to jobs for which they are intellectually unfitted, so there are others who are dull and lethargic and bored because their daily work is not intellectually difficult enough. The tests consist of simple questions and problems, such as naming coins, reproducing very simple diagrams, repeating numbers, describing pictures, etc. The tests gradually increase in difficulty for higher ages.

The Binet-Simon tests are arranged in age groups, that is, there are six tests which are allotted to age VII and other six allotted to age VIII, and so on up to age 16, beyond which the type of mental ability which these tests are supposed to measure is found to increase very little. After that it is a matter of increased information and very little of growth in intelligence. It is of interest in this connection that brain size increases up to about the same age, as Professor Johnston informs me.

The arrangement of the tests in age-groups means that, for example, the age VII tests are passed by normal (average) children of age 7 or over, but not passed as a whole by normal (average) children of 6 or less than 6 years of age. That was the original understanding. In practice the tests work out somewhat differently. In determining what constitutes a test passed by all average children of a given age, most investigators have adopted 75 per cent. of all the children of a given age. Burt suggested that it would be more accurate to assign to a given year-group each test which is passed by approximately 50 per cent. of the children nominally of the year below—whose age last birthday was one less than the age-group to which the test is assigned.

"Binet avoided the mistake of trying to deduce his scale from first principles. He based his scale on fact. Before asserting what degree of intelligence a child of 10 ought to possess, he took the trouble to ascertain what degree of intelligence a child of 10 actually does possess. Before testing the children with a test he first tested the test with the children" (A. P. Ballard).

It should be at once noted that in arranging in age-groups age V, VI, VII, and so on, Binet indicated mental age. No matter what age a person might be chronologically, if he passed no further than the tests, say, for the age-group

VIII, that was the mental age assigned to him. Thus, a child of 12 years of age who could pass no further than the test for age VIII was said to have a mental age of VIII. In this way Binet established a standard of comparison, which could be compared not only with the performances of all other individuals, but could be contrasted with the particular individual's chronological age. The meaning of the term mental age therefore is "that degree of general mental ability which would be possessed by the average child of corresponding chronological age."

In practice another point immediately arises. It is not found that an individual passes, say, all the tests allotted to age VII and then fails in all the others above that mental age. This is contrary to Binet's original plan, but in practice, while an average child of 7 may pass all the tests, say, of age VII, he may also pass several in age VIII, and even a few perhaps in age IX and X. Accordingly, it has been found necessary, and in fact more reliable and practicable, to revise the method of scoring, and to assign each test in the scale a definite age-value, say, two months, and a complete testing would apply every test in the scale to the individual under examination and assign him to an age-group equal to the arithmetical sum of the values of all the tests he has succeeded in passing. Thus, if he passed 60 tests each of two months value he would be placed in the age X group.

In practice one usually discovers at what age-group the subject passes all the tests, and adds on to the age-group so determined, all the isolated tests that may be passed above that age. Suppose, for example, the subject passes all the tests of age-group VIII, 3 tests in age-group IX, 2 in X and 1 in age-group XII. His mental age would then be VIII—3×2 months—2×2 months —1×2 months, or VIII years and 11 months.

It will naturally be asked how the tests came to be allotted in rank and how it is known that they test intelligence at all, and what basis there is for supposing that they will hold good in testing any random individual who comes under examination. The answer is that in their modern forms they have been constructed and arranged in accordance with the results of applying them to a very large number of normals, especially of normal children of different ages. The Stanford revision of the Binet-Simon test, for example, was based on tests of 1,700 children and 400 adults. It is found that if you apply a series of mental tests to a group of children of the same chronological age, and tabulate the scores so as to construct a graph in which the abscissa gives the possible scores and the ordinate the number of children giving each possible score, that the curve obtained is of a certain form.

This is the curve of "normal frequency." The same form of curve is obtained with any kind of variable in nature, say the stature of a large number of persons.

The limits of scores that are to be considered normal are somewhat arbitrarily determined. Supposing we place this limit at scores of 60 and 120, all the individuals scoring between these values are normal, all above super-normal, while all below are sub-normal, and would in practice, if the scores extend low enough, include those recognised as mentally defective.

Suppose that the above curve represents the results for the intelligence scores of 500 children of chronological age 8, and suppose 500 children aged 9 are similarly tested. Then the two curves will intersect. In other words, as we have already seen, there is a considerable overlap of intellectual ability at the various ages, and many children aged 8 can do the tests for age 9, while a number of age 9 will fail to perform all the tests for age 8.

All those of chronological age 9 who are lower than 7 are mentally retarded by at least a year. They are the so-called "dull and backward." If the overlap extends down to age 6 we begin to speak of mental deficiency.

The Intelligence Quotient, or I.Q., or mental ratio is obtained by dividing the mental age, as ascertained by testing, by the chronological age and expressing it as a percentage. Thus, in a child of 12 with a mental age of 9 the I.Q. is 75. A very important point is that the I.Q. remains constant, within very narrow limits of variation, throughout life, so that a child whose I.Q. is 50, at the age of 9—*i.e.*, whose mental age is 4½—will have at age 16 a mental age of 8. In other words, we can by these methods of intelligence measurement predict what a child's intellectual level will be in after life. Suppose, for example, that a boy of 14 is brought up for examination. His parents wish to know whether he should be permitted when he leaves school at 16 to enter a career which may be the desire of his heart, say, engineering. If you find that his I.Q. is 80—*i.e.*, his mental age is 11 years and 2 months—you can safely predict that he will never qualify as an engineer, and that he will be much better occupied at a routine job.

It is usually considered that an I.Q. between 90 and 110 is normal, anything below 70 denotes mental deficiency, and anything above 110 is considered to be super-normal. Idiots do not get beyond a mental age of 2 years (lower than the lowest measured by the B.S. scale or its modifications), imbeciles have a mental age of from 2 up to about 7 years, and the feeble-minded have an I.Q. of from 40 to 70.

The validity of the tests is established not only by the fact that the curves derived from testing large numbers of children are of the type that would be expected if we were testing functions that varied within the group and developed with the years, but that the results obtained correlate highly with results obtained by other older but less exact methods, such as the results of examinations, the estimates of children by their teachers on other grounds, the nature of the occupations followed in after-life, and the success obtained in them. What is advantageous in intelligence tests over these older methods is their greater exactitude, their greater freedom from personal bias, their convenient numerical expressibility for the purposes of comparison, and the power they give of prediction.

It may be asked what it is that is probed by these tests. Do they all test the same function, or is intelligence compounded of a set of mutually independent functions? Or is it compounded of groups of functions, each group being independent of every other? Of these three views the fashionable one at present is a compromise between the last two. It is held that there is a general factor sometimes called "mental energy," or uncommittally designated simply by a symbol "g." This general factor permeates all intelligent activity. Specific abilities are due to the possession or special factors, each designated symbolically and conventionally as "s." For example, a person who shows all-round intelligence with a special aptitude for mathematics is said to possess much "g," together with a specific factor "s" for mathematics.

On the other hand, there are those who maintain that there is no such thing as a completely general factor, but that there are group factors—types of intelligence behind certain sets of abilities, but independent of the intelligence factors behind other sets in the same individual. For example, a person may excel at languages and be very ineffective at mathematics. A great discrepancy of this kind points, however, to educational and temperamental, rather than to intellectual, factors.

LIMITATIONS OF INTELLIGENCE TESTS

It has to be remembered that although intelligence tests perform a very useful function the results obtained by testing have to be weighed very carefully in the individual case. In the first place, while intelligence is a very important asset, it is not the only one that is necessary for the battle of life. The character and temperament are just as important—in a sense, more so. Some, like F. C. Bartlett, hold that of all purely psychological factors, temperamental tendencies have most to do with occupational success and social status. Physique also matters, and, moreover, physical conditions may have an effect on the results of a test. You should not, as a rule, submit a person who is physically ill to an intelligence test. I remember one out-patient who was tested and did not do very well in her answers, although she had done well at school; it suddenly occurred to someone that she looked ill. Her temperature was taken, and it was found to be 103. She had pulmonary phthisis. Similarly, in persons mentally ill, suffering from an incidental psychosis, it is unwise to attempt an intelligence test until they have recovered, or at least their general mental condition is not such that it is likely to vitiate their performance.

When the conditions are favourable and an intelligence test has been done, it is necessary to allow for several factors:—

(1) The influence of scholastic education on intelligence rating. It is found that in the Binet-Simon tests, at least, the influence of education plays a considerable role; so that of two groups equally intelligent, but unequally educated, the better educated group will give the higher scores. Canal boatmen's children, for example, whose schooling is irregular, give lower scores than ordinary school children, yet they are at least as capable of taking care of themselves. For such cases special tests have been devised ("performance tests," such as various forms of maze —v. infra on "Modifications.")

(2) Social status has an influence. Yerkes and Bridges found that, *ceteris paribus*, the school children from two Boston schools, one a school of better class children, the other of lower class, differed in their intellectual performance by as much as 20 or 30 per cent., the more favoured children showing that amount of superiority.

(3) Racial differences also affect the test to a certain extent, so that the curves established for France and America are not quite accurate for London children.

This is partly, if not wholly, a matter of environmental, linguistic and educational difference, rather than of difference in ability.

(4) It is necessary to remember that such tests as these do not provide a clear indication of the ability of the individual to adapt himself to society. There are, as has been pointed out, important intrinsic factors of temperament, character, etc., but there is also the environment to be considered. In simple surroundings the poorly equipped individual may succeed perfectly well. Burt remarks: "In testing random samples of working men and youths, both at settlements in London and Liverpool and in rural districts of Warwickshire, I have met numerous individuals managing the affairs of the household and dis-

charging the requirements of their occupation, who yet could not pass sufficient tests to allow even a mental age of 8. . . . Many of the dock labourers of Liverpool continue successfully to work and live with a mental ratio of little over 50." It is, nevertheless, advisable to watch over these cases : with them supervision is always expedient, but segregation is not usually necessary, but below a mental age of 8 the individuals usually become parasites (Burt).

MODIFICATIONS OF THE BINET-SIMON SCALE

Numerous modifications, all of a minor nature, have been suggested. It has been necessary to alter some of the original tests in the light of experience, and also to make more of them suitable for other nationalities than French. One of the most important emendations suggested is that instead of introducing new tests at each age and dropping old ones the same kind of test should be used at each age, as far as possible, so that a continuous record would be gained of the development of one particular aspect of intellect.

In view of the influence of education on the results of testing, and also in cases where the subject to be tested is illiterate, it has been found advisable to adopt tests of a slightly different nature, requiring only skill in such operations as may be picked up by anyone in the course of experience, independent of scholastic training. Such tests are the maze-tests of Porteous, the form-board, the picture-puzzle and the cube-construction tests, etc.

One of the best known modifications is that of Yerkes, who emphasised a deficiency in the B.S. method in that the scoring was such that the subject either scored full points or none at all in a given test. No allowance was made for partial success. Yerkes so arranged the scoring and the tests that more or less points were awarded according to the degree of satisfactoriness of performance of each test.

Intelligence tests were at first applied only to individuals. But it has been found possible to apply the same test to large groups of individuals at a time. The most famous example of grouping test occurred in the American Army during the war, when 1,700,000 men were submitted to intelligence tests and allotted for duty accordingly. When it is realised that in a series of nearly 4,000 British troops invalided during the war for mental disorders, nearly half were invalided because of mental deficiency—which had existed from an early age—the value of an intelligence test as part of an enrolment examination will be appreciated.

The American psychologists divided their examinees into 5 groups, according to the results of the test :—

A =Very superior intelligence	4% to 5% of the draft quota. High Officer type
B =Superior intelligence. Average record in College	8% to 10%. Many Officers and (mostly) N.C.O.'s
C+=Average intelligence	25%. Privates and a few N.C.O.'s
C =Low average	20%. Privates and a few N.C.O.'s
C—=Inferior	15%. Privates, but slow in learning and lacking in intuition
D & E=Very inferior	The majority below mental age of 10

It will be seen that, according to the tests used, no fewer than 40 per cent. of recruits for the American Army were of " inferior " or " very inferior " intelligence. Since the recruits were a fair-average sample of the population it is clear that the standards set by the tests, which would make over 40 per cent. of the population " defective " with a mental age of 12 or less, produced a false impression, and that the lower limit of successful adaptation in civil life must be placed at a mental age of about 8. The higher the mental age, of course, the more complex the possible adaptation.

The mental rating of officers was found to be considerably different in different arms of the Service. The highest proportion of A and B men was found in the Engineers, the next highest in the Artillery, then in the Sanitary Corps, Field Signal Battalions, Machine Gun Battalions, Infantry, Quartermaster Corps, Medical Corps, Dental Corps and Veterinary Corps, in that order of diminishing intelligence.

Intelligence is not, of course, by any means the only factor in determining military value, in which especially temperament—not yet satisfactorily measurable by any known means—is a preponderating influence.

In conclusion, it is clear that while tests of intelligence furnish the means to a conveniently numerical assessment of what is commonly called the intelligence of an individual, the immediate results of such tests must be controlled with great care. Allowance must be made for the state of the patient's general health ; the testing itself should be done only under suitable conditions and by a person experienced in such work, and the

social status and type of education which has been received must also be considered. It has also to be remembered that a person who responds unsatisfactorily to the ordinary type of intelligence test, which is largely scholastic in nature, may give very much better results in tests of practical ability—performance tests. When an attempt is made to apply the findings to prediction and future guidance of the person tested, temperamental factors must also be given great weight.

The Extraction of Teeth: with Special Reference to the Abnormal Case.

A Clinical Lecture by G. B. Pritchard, Esq., M.R.C.S., L.R.C.P., L.D.S., R.C.S.

THERE is a definite technique laid down for the operation of removing the upper and lower teeth, which varies slightly in detail for each individual tooth, but the underlying principle is the same for them all.

It consists of three stages :—

(1) The application of the forceps to the tooth ;

(2) The loosening of the tooth in its socket by a combination of forces which dilate the socket and break down the ligament ;

(3) The removal of the tooth from the dilated socket.

To take these stages in somewhat more detail :—

(1) *The Application of the Forceps*—

The forceps are applied to the neck of the tooth and then driven into the gingival trough through the superficial fibres of the periodontal membrane to obtain a grip on the root below the level of the alveolar margin. In this way the minimum amount of damage is done to the overlying soft tissues—a most important point in the avoidance of post-operative pain and infection.

(2) *The Loosening of the Tooth*—

This is the important part of a successful extraction, and is carried out in a variety of ways, which depend on the anatomical variations of the parts concerned.

In general, strains are applied to the root of the tooth insufficient to break it—you must remember that in the great majority of cases the roots of teeth are tough and slightly elastic and do not readily fracture—but sufficient to cause a bending or a partial fracture of the alveolar bone. These strains at the same time break down the attachment of the periodontal membrane, which is quite inelastic.

In applying the strains one should remember that the outer alveolar plate is thinner and yields more readily than the inner, and this applies everywhere, with the exception of the lower third and possibly the lower second molars. In certain teeth less dilatation is necessary than in others—*e.g.*, the upper central incisor teeth, which are conical, and definitely rounded in cross section. In extracting these teeth one often sees them shoot out of the mouth when the pressure is applied with the forceps. This possibility should always be borne in mind, as the tooth might go down the pharynx. The same thing applies also to the lower premolars, and they are far more likely to go down the pharynx. Therefore a gentle rotatory movement is indicated which allows the tooth to rise slowly and gently in its socket. In addition to this, violent lateral movements applied to the lower premolars tend to make them break just near the apex, which therefore is retained.

After loosening—in whatever way it is carried out—the tooth is picked out of the socket. No tooth can ever be pulled out.

I have described three separate stages, but in reality each merges insensibly into the next until the operation is completed.

The exact amount of force to be applied and all the minute variations in direction which become necessary during the operation can only be learnt by long experience, and the development of one's tactile and muscle senses. Every case differs from its predecessor, and a strain which in one will be adequate to loosen the whole tooth will produce no results in the second case and will remove the crown only in the third, and in the fourth will remove all but the very important apical one-eighth of an inch, and in the fifth produce a complete fracture of the jaw. It is in a proper appreciation of these points that the development of a successful operator lies.

The Extraction of Misplaced Teeth—

The lower third molar, even when placed normally in the dental arch, is often most difficult to remove. There is very little alveolus in connection with this tooth, and in the main its roots are embedded in the body of the jaw, which is here rather thick.

Of all the lower molars, too, the third is more often abnormally shaped, with variations in the size, number and direction of the roots.

The usual extractive movements carried out with forceps should be directed to the bending of the inner rather than the outer wall of the socket, as is usual in the other teeth.

In my mind the best instrument for the removal of this tooth is the straight elevator.

Most commonly there is a backward curve in the direction of the roots, and when the elevator is used it makes the tooth lift along a continuation of this curve out of its socket. In removing the right third molar keep the thumb of the left hand hard on the crown, and on the left side keep the second finger of the left hand hard on its crown. It is very easy sometimes to dislodge the tooth completely from its socket either down the pharynx or under the mucous membrane on the inner side of the angle. Lift the tooth with the elevator and then remove it with the forceps.

Impacted and Misplaced Teeth—

Under this heading one most commonly considers in the order of their incidence the lower third molars—and sometimes the upper—the canines and second premolars.

The Lower Third Molar—

This tooth occasionally lies in any position in the ascending ramus; more occasionally it is found either in a good vertical position partly or completely impacted against the base of the ascending ramus, or lying horizontally with its occlusal surface in contact with the back of the second molar. Most commonly it is in a position intermediate between these two extremes, and it may or may not be partially erupted.

Now, consider what has to be done. The site of operation is rather inaccessible and its boundaries strictly limited. In front is the second molar internally part of the origin of the superior constrictor, with the tongue lying against it and externally, the external oblique line.

First of all expose the bone lying over the tooth and then with burrs or chisels entirely uncover the crown, and, if the tooth is horizontal, as much of the root as is possible. Then remove bone lying external to the crown. It may then be possible to use an elevator, if not the socket can be enlarged with a fissure burr in an R.A. handpiece. In cases where the tooth is lying perfectly horizontally such uncrowning may be insufficient, and although the tooth may be movable it still remains obstructed. This is partly due to the fact that the anterior and more deeply buried aspect of the tooth is wider than the uncovered posterior aspect. The cutting of the tooth into two pieces through its neck often solves this difficulty and enables each fragment to be removed separately.

Canines and Second Premolars—

The canine teeth, both upper and lower, are very frequently misplaced, especially when the arches are crowded. Being the last of three teeth to erupt between the lateral incisors and front molars, a lack of adequate space directs them into very abnormal positions.

This path of eruption is also long and difficult, and because of this they occasionally fail to erupt at all and lie in all sorts of abnormal positions.

When crowded out of the arch these teeth usually lie external to it, and consequently and fortunately the overlying bone is rather thin. On the other hand, the neighbouring teeth prevent the usual extractive movements.

I have often found that in these cases it helps very much to incise the mucous membrane and run a fissure burr through the bone along most of the length of the root, thus helping to reduce materially the resistance. It can quite well be done under nasal gas.

Second premolars, both upper and lower, when misplaced usually lie internal to the arch. Apart from removing the neighbour, there is no way of solving this problem. Prolonged and exceedingly gentle rotatory movements should suffice in the end in connection with lower premolars. A fissure burr to enlarge the socket may be used for the upper premolars.

The next group consists of those teeth which on a superficial inspection promise no difficulties and which when attempted under short gas anæsthesia lead to failure.

They can be grouped under the following headings:—

(1) Teeth with unduly long and twisted or bent roots;
(2) Teeth with widely divergent roots;
(3) Teeth with exostosed roots.
(4) Teeth with exostosed roots and false germination.

Such conditions as these occur with great regularity and are a very considerable source of worry, because the ordinary extractive measures are inadequate. The history of the patient—previous difficulties of extractions—and the history of the teeth in question, together with a careful physical examination, might lead one to suspect difficulties. Radiographs can then be obtained, and with their assistance more adequate preparation for extraction can be made.

The abnormally long and twisted roots may sometimes be removed after very careful prolonged extractive efforts, which if not successful at the first sitting may be so after a few days.

There is always a certain amount of inflammatory softening after attempts of extraction.

The extraction of molar teeth with long and divergent roots leads to a great deal of damage to the alveolus and associated gum if carried out in one piece. It leads to fracture of the roots, too. It is comparatively simple to cut through the outer alveolus over each buccal root with a fissure bur after incising the gum, and the resistance is very much lessened.

If the crown is badly broken down another method employed is to separate the roots from each other with a bur and remove separately. This produces the minimum amount of damage to the bone and none to the gums.

A localised apical exostosis will always break if appreciably bigger than the rest of the root for obvious reasons. The superficial part of the socket must be enlarged before it can pass through. If you know of this and can do so from the beginning so much the better. There will not be any fracture then.

Germinated teeth obviously require a wide opening of the combined sockets.

There is one definite type of tooth which, to my mind, is impossible to extract in the ordinary way, and that is the pulpless tooth with a filled root which has been *in situ* for many years. They usually turn up for extraction because the crown has broken away or because there is an exostosis or small granuloma revealed radiographically. The roots are as brittle as glass and the alveolus is usually sclerosed. However carefully the forceps are applied that portion collapses on the slightest strain. There is no dilatation of the socket possible.

I always tackle these under local anæsthesia. It is always possible, as there is never any acute or spreading infection with this type I am describing. With molars separate the roots and you may also have to cut the alveolus too, either buccally or with a fissure bur around the root. Sometimes a root of a premolar or canine may have to be uncovered to and beyond the apex before it can be shelled out.

Loose pyorrhœic teeth are often disastrous to the unwary. With their living pulps and their denture hypercalcified an unguarded movement may fracture the apex *in situ*.

Buried Roots—

Roots of all kinds are met with—progressive caries decalcifying to below the gum margins, roots broken in recent extractions and roots left lying buried in the bone years after extractions. There is nearly always infection of some degree present, either latent or with acute inflammation.

The difficulty in these cases is to get hold of the root which lies at a level deeper than the alveolar margin.

Sometimes forceps are applied so as to include gum, bone and tooth, with the very worst results. Undoubtedly the root sometimes comes out, but there is left a badly lacerated gum, comminuted alveolus and a gaping wound, which is promptly infected. Such sockets remain exceedingly painful for week suntil the sloughs and sequestra separate and when healed the residual alveolar ridge is at a minimum. At other times the forceps are applied sub-periosteally and bone and root removed together. The after effects are not quite so bad, but it is a practice not to be recommended.

It seems to me to be far better practice to make an open operation of the job. Lift a flap of gum, bur or chisel the overlying bone away and pick out the tooth.

The more violent the efforts are in extracting, the greater is the immediate damage, and a large area of tissue is left with diminished vitality, an easy victim of the inevitable infection. When one apex of a lower molar is retained it is often easily possible to remove it with the curved elevator, used in one of two ways. Drive it into the socket where the fragment is to push it into the empty one, or by working through the empty socket break down the septum and lift the fragment.

Buried Roo's of Long Standing—

In this type of case there may be a sinus as an indication of position, or there may be teeth *in situ* adjoining. On the other hand, the apices may be deeply buried and surrounded by hard bone in an edentulous jaw.

In this latter case have radiographs taken with a wax plate *in situ*, carrying pieces of thin wire for localising purposes. Then when the time for operation comes put the plates in the mouth and drive a probe through. The roots will be somewhere at that spot.

While on the subject of radiographs it is often advisable in cases of deeply buried teeth, in the tuberosity, for instance, to ask for stereoscopic plates. You will get a better idea of depth and of the direction in which the tooth is lying.

I am now going to give you my own views on a point which is the subject of considerable controversy, and that is the retained apical fragment. Should one continue blindly groping for it at the first operation, lacerating bone and gum and making an enormous hole in the jaw? I think this practice is very strongly contra-indicated. If the fragment is presumably uninfected and reasonably small, leave it alone. Sometimes it may be left for ever, but jot it down in your records of the case. One sees numbers of such apices completely surrounded with what appears to be normal bone and presumably not infected. I remember taking one such apex out with very great care and the bacteriologists reported it

sterile. If you intend to remove the fragment, still leave it for the time being, and after a few weeks, when the tissues have recovered, do it under local anæsthesia with an open operation to see what you are doing.

The same applies to infected teeth. Unless you are operating under local anæsthesia or with ether, leave the fragments until you can use a local anæsthetic or give ether, and work with an open operation.

This strict limitation of time is the main drawback to nitrous oxide anæsthesia. You get your tooth or you do not—it is better to leave the whole of it *in situ* than an apex only—and there is no time to deal with such complications as fractured roots.

Therefore, when extracting under gas anæsthesia, pay special attention to those very fine points in the technique, and if you find that your senses tell you that the tooth will break if you persist, do not persist. You will not do as much harm as if you had carried on, and at a second attempt what you have learnt at the first will be a great help.

Extracts from a Diary of a Voyage to the East as a Ship's Surgeon.

(*Concluded*)

A WOMAN who is distinctly either a dement or an ament attached herself to me. She was semi-ancient and angular and talked hard and incoherently about how proud she was to help those who braved the dangers of the sea and a sister who lived in Forest Gate or, possibly, Forest Hill "that was near Hampstead, wasn't it?"

I tried saying "Excuse me" and leaping across the room, but she was back again in half-a-minute and "blethering" vigorously. The next dance was called a Leap Year Dance, so she seized me before I could retreat. I trod hard on her toes several times, but that did not seem to restrain her. In fact, she didn't seem to notice it. After the dance I went despairingly and hid behind a placid-looking parson, who was piously sitting in a corner with a benevolent expression on his face.

At intervals sailors, with amazing memories, recited real red-hot sentimental stuff about "chaps" that wandered in the remote corners of the world for sins they hadn't done while other rotters enjoyed the love of passionate alluring dark-eyed women that damned to deepest hells of solitude the before-mentioned wandering fellows.

Then there was a Christmas Tree from which every guest got a present—socks, tie pins, etc.

At the end of the evening everybody told everybody else what good fellows all bodies else were, and crews and troops went home to the strains of a mandoline beautifully played by an officer from a small Blue Funnel ship lying a little below us.

December 27th

Had a very pleasant afternoon with the C——'s.

December 28th

Repetition of evening with C——'s.

There has just been a tramway strike in Shanghai—no doubt, a Bolshevik manifestation.

As a very typical example of the Chinese coolie mentality the following story is told by a Roman Catholic priest who has spent many years in China doing Mission work.

A certain coolie, named Ho Tung, was converted to the Faith, and in due course was baptised and christened Patrick. After the ceremony the Father said to him: "You no now belong Ho Tung, you belong Patrick," and proceeded to explain certain duties and observations that he would have to keep, and among them the abstinence from meat on Friday, when he might eat fish only.

Three or four Fridays later Patrick, who was made the Father's house boy, was discovered frying a large pork chop.

The priest tackled him forthwith: "What for you makee fry pork chop, Patrick? You no savvy to-day belong Friday?"

Patrick denied entirely that he was frying a pork chop.

"But, Patrick, I can see you are frying a pork chop," replied Father.

"No, master," said Patrick. "Me takee plenty muchee water, put on pork chop, makee say 'Father, Son, Holy Ghost.' No now belong pork chop, you belong fish."

January 3rd

Arrived at Hong Kong last night after an uneventful trip down from Shanghai.

The entrance to Hong Kong was really very charming. The lights all over the Peak and the

coloured red and green lights along the water's edge make a fairy land.

January 4th

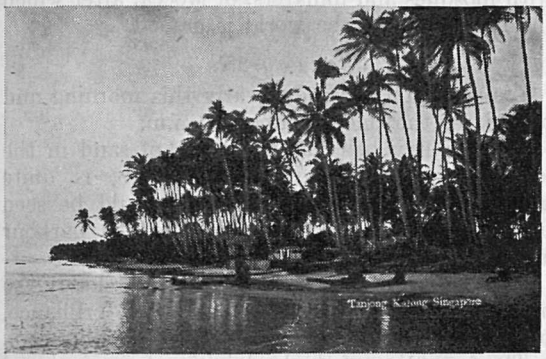
I did not go ashore at Hong Kong as we left at noon to-day.

There are five passengers on board, all bound for Singapore except one, who is going home.

Two are ladies, Miss C——, funnily enough, being the Sister-in-Charge of the Jahore Hospital, whom I met when we passed through Singapore on the way out.

The other lady hails from Australia and now teaches at Kuala Lumpur.

There is an old sea captain who has recently celebrated his retirement too well and is now seeing things. I have filled him with bromide and chloral. A Jap, who cannot speak a word of English, an Australian who is deaf and an engineer from just outside Singapore, where new water works are being constructed, complete the list of passengers. The last, C——, is a typical rather solid Englishman, educated at Uppingham, and a very good sort.



Tajong Katong, Singapore.

January 7th

Arrived at Singapore this morning in a drizzle. Went ashore at about 11 o'clock and C——, Miss C—— and I, after despatching the Australian lassie (Miss P——) to her destination, had a very good lunch at the Europe Hotel. The lunch created a tremendous sense of repletion, so we retired to the " mess " so-called of C——'s particular firm. It is a very pleasant place on the top of a hill where apparently those engaged on reconstruction work can come in for week-ends.

Here we had cherry brandy and the latest gramophone records to which one of the bright ads there demonstrated the latest Charleston steps.

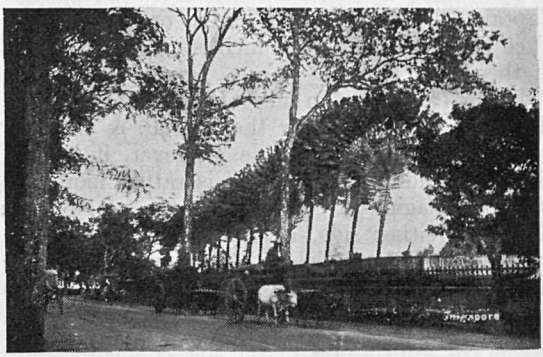
Sister H—— joined us at tea time and we went down to the Sailing Club for tea.

After this we motored out to Sea View Hotel, through, first, the main part of the town, where we passed a game of " rugger " in full swing. It is played quite extensively in this country despite the heat. The natives, however, do not take to it but play Soccer. The Sikhs play hockey.

After leaving the town we went through great groves of palms and eventually came out on a small point looking across the Straits.

It started to rain slightly at this stage, so we returned and stopped at the Sea View Hotel for a little liquid before returning to our respective destinations for dinner.

We left Singapore at about 4 p.m. on Sunday, an afternoon of bright sunshine, with intermittent thunder storms and tropical showers.



A Scene, Singapore.

January 11th

Arrived at Penang this morning early and left at 4 p.m. We took in a cargo of tea, rubber, cocoa-nut fibre and tin.

Captain H—— and I went ashore for lunch, which we had at the Runnymead Hotel. This place is being thoroughly overhauled and the new dining room and dance floor promises to be very good.

It is difficult to imagine anyone dancing en thusiastically in this land, yet they do it and the men wear black clothes and stiff shirts, than which it is difficult to imagine anything more foolish.

Another passenger has joined us here. A very pleasant mining engineer from the tin mines near Ibo.

January 15th

Colombo—I was wakened at 2 a.m. to assure the Port Doctor—a tall Cingalese, about 6 ft. 5 ins., in spotless white—that all was well on the ship. I wonder whether he meets every ship that comes in at ungodly hours of the night.

Nothing except a few shore lights could be seen at that hour of the day and some round port-holes and riding lights, suggesting dimly the out-lines of one or two ships in the harbour.

I woke at sunrise to see a neat and compact-looking town coming down to the water's edge,

and a large harbour enclosed by a long breakwater with two entrances.

About half-an-hour later the Orient liner *Orvieto* came slowly in to moor about 300 yards from us. Her steerage was crowded with passengers, presumably emigrants to Australia.

The Captain, Captain H——, M—— and myself took a launch to the shore, where a typical hot summer's Sunday morning atmosphere was apparent—deserted streets, shops all shuttered—and one realised that this was truly British.

At the G.O.H.—Great Oriental Hotel—we rested for liquid refreshment. A rather fine place the G.O.H., with a cool, shaded lounge. From here Captain H——, M-— and I went on to the Galle Face Hotel for tiffin—as lunch is invariably called in the East.

This is externally an unsightly building, painted the same hideous colour that the P. & O. ships use for their decks. Inside, however, it is very pleasant, and the dining hall is rather more like what I imagine a Spanish church to be like: Aisles on either side, a high roof supported on arches running parallel with the long axis of the building, and all whitewashed. The aisle on the west is open to look over the sea.

Here we had a very pleasant lunch, and then took rickshaws back to the ship, along the sea front, past the Government House and Post Office to the landing stage.

Colombo seems to be a very pleasant place, and is apparently not so intolerably hot as most Eastern towns, while inland Ceylon presents a great variety of climates.

The town itself is very good to look upon, and stands on a peninsula that encloses the harbour. In its midst is a lighthouse that barely raises its lantern above the other buildings. On stepping ashore one immediately reaches the main street, lined with shops all painted a light buff colour.

Passing along this, and turning to the right the Post Office stands opposite the Government House, built amidst a mass of vegetation—palms and very green trees and shrubs, with here and there the brilliant crimson of the hibiscus.

Continuing on towards the west side of the peninsula and the sea front, one passes on the left the barracks and comes to the esplanade, running along the beach, with lawns stretching inland to dwelling houses and palm trees. In the midst of one of these stands the War Memorial. About one mile along the Esplanade is the Galle Face Hotel.

January 23rd

The Red Sea—We passed Perim at about 10 this morning (Sunday). This is indeed a desert island, with only one small bush that I could see in its whole length, and I searched very carefully with powerful glasses.

It is composed chiefly of grey stone in dark and light shades, with here and there a tawny patch of sand.

Against this the brilliant green-blue sea and the blue sky made a striking contrast of colours.

A small spit of sand runs out from the mainland of the island on the west side—to which we passed—and encloses the harbour. Around this is arranged in disorderly array the few houses of the inhabitants. Lloyds' station stands out prominently with the name on it in large letters, one or two other European dwellings are quite visible, and on the highest point is a lighthouse. At the end of the spit of sand enclosing the harbour are two large oil tanks of the A. P. Oil Co. Away behind the island are the tall mountains of Arabia faintly suggested in blue.

Crowds of birds of prey wheel in large circles over this desolate spot. *Absit omen*!

Later in the morning we could see, just above the water's edge, the cluster of white buildings, with mosques and minarets, of Mocca, after which the best coffee in the world is named.

January 25th

We sighted Port Sudan early this morning and picked up the pilot at about 8 a.m.

The country behind the stretch of sand in the foreground, dotted with small scrub, is quite mountainous, and the town itself could be seen behind the two beacons indicating the harbour entrance.

The morning was very windy and cloudy, so one didn't get the usual impression of brilliance, but to compensate for this it was reasonably cool.

The formation of the harbour is very curious and is due apparently to a coral ridge that runs almost parallel to the mainland for about two miles, with a break that gives entrance to the harbour and a continuation as a reef just under the water for several miles further along the coast.

The machinery for unloading and loading ships is very up-to-date, and this is no doubt a developing port.

On gaining the harbour the Port Doctor came aboard—a large, sour-visaged Frenchman, who looked as if he had suffered all the disappointments possible.

Just after us the *City of Marseilles* came in. She is trooping, and was crammed with soldiers —the Dorsetshire's, Staffordshire's, Kings', Queens' and Black Watch—bound chiefly for India.

The natives who came aboard here were physically superior to any we have so far met, and many had the true Fuzzy Wuzzy head of hair.

They let it grow like that of a golliwog and smear grease round the lower part of the "mop," and twist that part into small tight curls, while the remainder stands out in fuzzy profusion. They are jet black.

At about 10 a.m. M—— and I went ashore and came up behind the first contingent of troops to leave the *City of Marseilles*, and so had music all the way to the town, which lay across the harbour from where the ship lay. We had therefore to walk to the bridge which crosses the stretch of water forming the harbour, about a mile-and-a-half higher up. About a mile beyond this the harbour ends bluntly.

The country here is a little less than complete desert, though occasional trees do grow, and one sees a brilliant show of giant sunflowers here and there, or sometimes the convolvulus blossom.

In the centre of the town is quite a pleasant square, with a small stone structure with corinthian pillars surrounded by gardens, in which grow zinias, sunflowers, a species of stramonium and several other trees and shrubs which, except for palms, I could not identify. Lucerne and grass were also growing well. Water is got by boring. We walked along the dusty main street through which supercilious looking camels "mooched" on big feet accompanied by the most rascally looking blacks

The niggers here have the most cheerfully villainous faces imaginable. They all look as if they had just "done" somebody by cunning roguery and were enjoying the joke immensely. One face in particular sticks in my mind: That of a tall nigger in a snow white turban and sort of night shirt affair of soft white material and who carried a stick with a slight curve towards one end—a common form of stick here. He had a straight nose—not flat—and a small pointed beard. As he went past he closed one eye, looked sideways out of the other, while the corners of his mouth turned up in a rascally smile.

Beyond the town is the native quarter, a compact town of wooden hutches, planked down on utterly barren ground. We strolled out to this and then returned to the hotel on the water front to slake the thirst caused by the dust. When it blows really hard here the discomfort must be well nigh intolerable.

The hotel was full of Army officers and their wives.

In the evening we tried to catch a shark from the stern end of the ship with no success, despite an appetising chunk of pork!

January 26th

Very windy and distinctly rough. The African coast with high jagged mountains is clearly visible.

January 27th

Arrived at Suez this evening after a most perfect day steaming up the Gulf of Suez. On both sides the desert foreshore and the mountains beyond were distinctly seen in amazing detail. They are utterly and completely barren and irregularly corrugated in a way that must be unique. Occasionally tawny sand makes a patch, as if some giant had taken a great handful and poured it down the mountain side. The colour scheme was one of glorious blues, relieved by the yellow of the sand.

In the evening, at about sunset, we steamed slowly to an achorage just off the entrance to the Canal. Here we were inspected by the Port Doctor, a large Egyptian with a deep voice.

At 9 p.m., or thereabouts, we entered the Canal.

January 28th

We arrived at Port Said this morning at about 10 a.m. and went ashore for hair cuts—that is, the Captain, Captain H——, M— and I. It was a very pleasant day and by no means too warm.

We did not stay here very long, but got away after taking coal and some few tons of oranges —Jaffa's, of very excellent quality. The P. & O. ship *Moldavia* got in a little before us, having passed us the previous day. She lay alongside us.

February 3rd

The Mediterranean has been thoroughly disgusting, and to-day the ship has been plunging about like a wild horse. Waves are breaking over the promenade deck and over both fore and aft main decks.

The carpenter was washed off one of the poop companion ways and tumbled on to the deck below, but sustained no severe injuries.

Three days ago we received a wireless message from the S.S. *Rokos Vergottis*, a Greek ship, to say that the second mate was struck with paralysis and would we kindly advise treatment.

So the rest of the day was spent at intervals giving advice by wireless to the skipper about a patient I had not seen. Fortunately, the Greek's English was excellent.

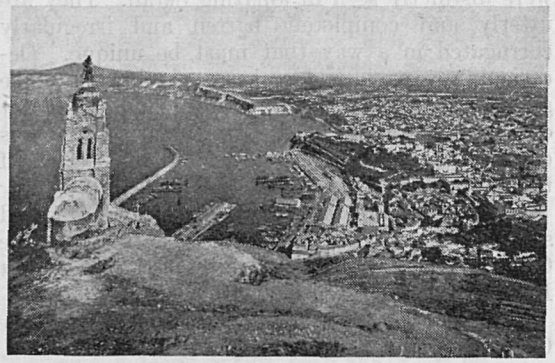
The second mate was a man of 63 years and was suddenly struck with paralysis of the right arm and leg, his powers of speech also being knocked out. He was not rendered unconscious, and when we last heard from the S.S. *Rokos Vergottis* he was progressing favourably.

The mountains on the North African coast are covered with snow.

February 5th

We arrived at Oran last evening after a perfectly glorious day of mellow sunshine. All day we passed within close sight of the coast, which is

surprisingly attractive. Grassy slopes, cultivated at frequent intervals, come down to the beach, and white farmhouses stand among trees. The valleys are all wooded.



Oran.

In the evening we approached Oran and, passing round a razor-edged ridge of rock ending in a cape with a large white lighthouse surmounting it, we came in sight of the harbour, with the town on the cliffs above. To the west there rises a mighty rock, with an old Spnaish fort on the top. This fort was built in 1750. As we entered the harbour the sun set behind the fort in a blaze of golden light, while in the east the full moon rose from behind a really purple mountain.

At 6 o'clock we were safely tied up in the outer harbour and ready for dinner before going ashore.

After food M—— and I shared a boat with J—— and M—— and were rowed to the landing stage of the inner harbour, and from there we walked up into the town. We arrived at the Place d'Armes to find a fair in full swing, complete with roundabouts, fortune tellers, a giant

The Opera House.

telescope directed at the moon, shooting range and a whole motley besides. We wandered round for a spell and rediscovered J—— and M—— drinking coffee, and joined them. From here, directed by the waiter to a theatre, we were taken by a small urchin in a fez to the Opera House, where we saw *Le Trouvere* fairly well done, the tenor having a very good voice. The orchestra was rather poor at times.

The Opera House is a very imposing structure for a place of the importance of Oran, and was absolutely packed.

We walked back to the harbour after the "show." It was a perfect night with a bright full moon and an exhilarating freshness in the air. We were lucky in having such weather, as two days previously the town had experienced a frightful cyclone, which wrecked several barges in the harbour, damaged a ship very badly, and caused the sea to knock a breach in the very substantial sea wall enclosing the harbour.

February 6th

Another perfect day, so M—— and I went ashore to stretch our legs and buy a few scenes of the place.

Above the Harbour.

Although the wind was quite freshly cool the sun was warm, and we, or at least I, soon perspired with the effort of walking up the steps and long road leading up the cliffs to the town.

We wandered round the place without any definite object except to see what might turn up. There is quite a large French population here; in fact, to our surprise, there were many more French to be seen than Africans. One saw only occasionally Sheikh-like individuals in voluminous flowing white garments and turbans. Very fine looking, tall and commanding men some of them were.

Here and there dark-eyed women allowed one eye to look out from behind the white draperies covering their heads and faces.

We reached the Place d'Armes and walked a little way up a pleasant street lined with palm trees and eventually reached a cafe with small

tables and chairs on the pavement in the true French style.

Here we had very light and cool beer before returning to the ship for lunch.

We got away at about 2.30 p.m. The afternoon was magnificent and the sea in colour the best of Mediterranean blues beneath a cloudless sky.

February 7th

We came in sight of Gibraltar at about 10 a.m. The weather was again very beautiful, though the sky was not cloudless as yesterday. Huge masses hung over the African side of the Straits.

We passed quite close to this peninsula and could see clearly the fort on its highest point and the lighthouse at its extreme, while the town of Ceuta, encircling the bay to the west of Ceuta Point, was very plainly visible, even to the advertisements on some of the business houses. This dispelled altogether the idea of minarets, domes and flat roofed houses with tiny black windows that one formed on the way out, when we passed much farther away. It is a modern looking town with pretty villas on its outskirts and warehouses along the front behind the harbour.

The Rock of Gibraltar was a grey-blue mass on the opposite side of the Straits, about 20 miles away.

As we passed through the Straits the largest motor ship in the world, Italian owned, also went out to the north of us.

February 8th

A magnificent day of smooth blue sea and pleasant sunshine. The coast of Portugal clear on our starboard.

February 9th

We passed a rotor ship this morning, a curious looking craft with three enormous cylinders projecting from her decks. The two foremost only were rotating.

In the afternoon we passed the mouth of the Tagus and could see small Portuguese towns along the shore, but no evidence of the revolution that is reported to be in progress.

February 10th

Entered the Bay this morning early and it is living well up to its reputation. Seas are breaking over both fore and aft main decks and on the windward side also over the saloon deck.

The ship is pitching and rolling in a thoroughly unpleasant way.

We passed a small cutter-rigged yacht this morning. She doesn't look the sort of craft to sail the Bay of Biscay at this time of the year.

February 11th

Much calmer this morning, but seas still moun ainous.

10.30 *p.m.*—Well in the Channel. We passed Guernsey at about sunset, and now lights can be seen flashing on both sides, a large one on the French side and a fainter—probably because more distant—on the English side—(? St. Catherine's Point.

February 12th

Picked up the Channel pilot this morning, and all day we have been in sight of the land. We passed Dover at about noon.

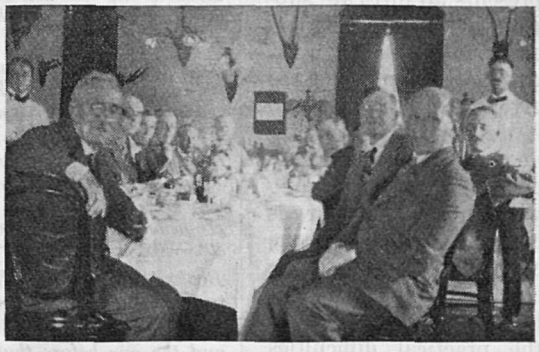
In the afternoon we entered the Thames. It seemed that we had hardly left it a week. At Gravesend the doctor came aboard. He soon gave us a clean bill of health, so, with hardly a stop, we passed on to King George V Dock once more, and in a typical London drizzle tied up alongside a wet quay.

Correspondence.

First Annual Congress of the S. A. Medical Association (B.M.A.)

DEAR SIR,—During the first Annual Congress of the S.A. Medical Association (B.M.A.) at Bloemfontein a reunion luncheon of Guy's men was held.

It was a most successful function, and after the toast of "Guy's" was proposed by Dr. Darley Hartley, the oldest Guy's man present, and responded to, reminiscences were indulged in by the older men present.



I enclose a snapshot taken at the luncheon, and a list of the doctors present, with the date of their entry at Guy's.

K. B. Alexander	(1892)	Darley Hartley	(1874)
J. H. Jones	(1892)	A. Gordon	(1919)
S. S. Suzman	(1919)	A. Havenga	(1914)
H. R. Mullins	(1904)	S. J. Redpath	(1895)
C. L. Leipoldt	(1902)	M. Moffat	(1890)
W. H. Watson	(1902)	F. V. Stohr	(1897)
P. N. Vellacott	(1898)	M. Jackson	(1920)
by proxy		J. A. Currie	(1916)
O. H. Krause	(1919)	J. Nocolai	(1920)

Yours faithfully,

A. GORDON.

National Hospital,
Bloemfontein.
March 28th, 1928.

Reviews.

OBSTETRICS

The Queen Charlotte's Practice of Obstetrics. By MEMBERS OF THE STAFF OF THE HOSPITAL. Published by Messrs. J. & A. Churchill, Ltd. *Price* 18*s*.

QUEEN CHARLOTTE'S HOSPITAL has for many years been regarded as the premier Maternity Hospital of London. It is consequently an event of some importance when a text book is produced which purports to give an account of obstetrics as practised within its walls.

The volume in question is a work of some 600 pages, produced in a style in accordance with the highest standard of modern medical book publishing. It is well illustrated, and considerable pains have been taken to make the index a useful appendix to the volume.

The preliminary chapter on embryology, written by Professor Frazer, presents an intricate subject in a concise and easily understood manner. Antenatal management is given the attention which it deserves; the chapter on abortion is remarkably good. The section dealing with normal labour is conventional, and no one could find fault with the chapter dealing with contracted pelves except that the practical difficulties which arise in the estimation of degrees of disproportion are insufficiently stressed. Considerable attention is paid to the subject of toxæmia of pregnancy, but the junior reader would have to be a person of unusual discrimination to determine for himself which of the many methods of biochemical investigation are of definite value in determining the proper course of treatment. We feel that this is a subject for more didactic teaching.

We have nothing but praise for the able article on puerperal pyrexia and the chapter on the subject of maternal mortality will stimulate a broad outlook on the many problems connected with child bearing. The newborn infant, so often regarded by writers on midwifery as an unimportant by-product, receives due attention.

Judged as a text book by a group of acknowledged experts, we consider this a sound production, but we would warn prospective readers not to be misled by the title. We expected to find an exposition of practice which could be traditionally associated with Queen Charlotte's Hospital. In that hope we were disappointed. The practice of this Hospital would appear to be orthodox and progressive, but it differs in no way from that of other well-run institutions. However, this fact makes the text book all the more suitable for the student preparing for examinations, and we have no hesitation in giving it our recommendation.

A.J.M.

WE HEAR THEM SAYING

Thwow away your —— text books!—Mr. CHICAGO BOMBSON.

We shall be only too glad to have any of your old books for our departmental library.—Prof. WEMBRAY.

I fear this to be one of the many erroneous statements copied from book to book. Even my colleagues at the College are guilty.—Mr. TAGGE.

Of course, a corf is quite common in this condition, it is mentioned in all the books, but the really important thing is the increased x2 interval in the umpteenth lead, etc., etc.—Dr. PERAMBELL.

Read it up in the books, then come to see me do it, and find out how wrong they are!—Mr. PEDOWLAN.

Now the best monograph on this disease is published in Persian by Zooshka. You all ought to read it.—Dr. TINRIBS.

In revising the proofs of the latest edition of Co-operations in Surgery, *Mr. Burner and I were surprised to discover an unnamed operation which might well be termed the Bolya-Palfour-Hoynihan modification of Blayo's umbilicostomy, etc.*—Mr. HOWLANDS.

Books! Pestiferous things. I never find time to read them!—Mr. SMOOTHSON.

I'm afraid we haven't a copy of the last *edition, and the one before that is out. Is there anything else you'd like?*—WILLSTON.

No, we haven't it in stock. Just sold the last one, but if you're really in a hurry *we can get it for you by Thursday fortnight.*—BLATTAN.

CLINICAL MEDICINE

Modern Methods in the Diagnosis and Treatment of Renal Disease. By Prof. HUGH MACLEAN, M.D., D.Sc., F.R.C.P. 3rd Edition. Revised and Enlarged. Published by Messrs. Constable. *Price* 12*s*.

PERHAPS Professor Maclean will undertake one day to write a text book of medicine on the lines of his *Medical Monograph* series, and thus earn the gratitude of countless medical students. For he possesses the rare gift of infusing interest and simplicity into a dry and difficult medical subject. In this book he gives a typical example of his skill, and makes one read not only with interest but with gratitude.

Firstly, the French classification of chronic nephritis into two groups, hydræmic and azotæmic, has much to do with reducing the subject to simple terms, and the adoption of this classification in English text books is long overdue. Then there is a chapter which will be most appreciated by

general practitioners and students, "The Significance of Albuminuria," a subject on which the author, with his unique experience of nephritis in the War, is more qualified to write than anyone. Controversial matter is rightly avoided, but one must question his one excursion into theory when he frequently suggests that urea is retained in the blood in certain cases in order to promote diuresis.

As regards treatment, Prof. Maclean belies his title by mentioning little that is modern. The treatment of nephritis is mostly of the nature of a placebo, and is very nearly where it was 30 years ago. But the outlook is not so hopeless, and one has reason to believe that the interest taken in this subject both in America and here will bear fruit in due course.

Modern Methods in the Diagnosis and Treatment of Glycosuria and Diabetes. By HUGH MACLEAN, M.D., F.R.C.P. 4th Edition. Published by Messrs. Constable. *Price* 12*s.*

THIS book has now reached its fourth edition in five years. Considering the number of books on this subject at the present time this is a real proof of its popularity. The book is intended for the general practitioner, and aims at giving a concise account of the modern views on diabetes and glycosuria.

At the commencement a lucid explanation of the fate of protein, fat and carbohydrate is given, leading up to the subject of glycosuria and renal thresholds. Following this, much space is devoted to blood-sugar estimations, and particularly to Maclean's own volumetric method. Full laboratory notes are given, as well as minute instructions for the preparation of the various solutions. We cannot help feeling that the "busy general practitioner" to whom the book is addressed is likely to pass this lengthy chapter unread. Throughout the whole book there is an undercurrent of suggestion that the treatment of diabetes without repeated blood-sugar estimations is an unwise proceeding, and that no patient should be called a diabetic until his sugar-tolerance curve has shown that the glycosuria is not due to a low renal threshhold.

The dietetic treatment of diabetes is given in the latter half of the work, which concludes with food tables and recipes. We have seen diet tables which allow the constituents to be varied with greater simplicity than those provided in this book. The treatment of diabetes with insulin constitutes, in our opinion, the best part of the book. The indications and contra-indications for the use of insulin are clearly given, and we have rarely seen so many debatable points of treatment treated with such simplicity.

It only remains to add the lucidity of style and simplicity of explanation add much to the value of the book, more especially as it is intended for those whose knowledge of chemistry has, perhaps, grown somewhat rusty.

A Text Book of Infectious Diseases. By E. W. GOODALL, O.B.E., M.D. Published by Messrs. H. K. Lewis & Co., Ltd. *Price* 30*s. net.*

IN this book the well-known Goodall and Washbourn's *Manual of Infectious Diseases* enters upon a third edition, so extensively revised, rewritten and expanded that a change in title has been deemed a necessary accompaniment of its increased bulk.

In general plan the work follows lines convenient to the student. A valuable opening chapter is largely devoted to the comparatively new science of epidemiology, and the work of the modern biometric schools is here given full consideration. Those factors in transmission, clinical course, and prevention, common to all infectious diseases are next dealt with. The following chapters consider each infectious disease in turn, with a full discussion under the usual subheadings of ætiology, pathology, clinical course, treatment and prophylaxis. An account of plague has been omitted in this edition, but epidemic poliomyelitis and encephalitis, unimportant enough 19 years ago to be left out of the previous edition now takes a prominent place. Some useful appendices consider the vaccines and sera so extensively used in treatment, as well as the characters of the cerebro-spinal fluid, together with the techniques of lumbar, asternal and ventricular puncture.

This work, though full beyond the requirements of the average student, is not wordy or redundant, and sections like those on the vascular shock of diphtheria or the results of the treatment of convalescent whooping cough by ultra violet light should interest all medical men. On the whole, this book will appeal more to those directly connected with the fever hospitals.

The Examination of the Central Nervous System. By DONALD CORE, M.D., F.R.C.P. Published by Messrs. E. & S. Livingstone. *Price* 8*s.* 6*d.*

AN excellent but rather expensive little book of some 250 pages, more or less directly addressed to the clerk in the department for nervous diseases. The routine examination of the nervous system lends itself well to presentation in such a form, and here we have the clinical procedures usually demonstrated by the registrar expanded to full explanation and occupying at least two-thirds of the volume. The usual subdivision into motor and sensory systems, cranial

nerves, speech, etc., is followed, while throughout the book remains elementary in scope, and attempts no more than it sets out to do, a commendable thing in a neurological work. Consideration of the examination of the speech function leads to a cursory excursion into the investigation of the mental state, while history taking and the special examinations involving X-ray, electrical reactions and lumbar puncture are also dealt with.

Some valuable concluding chapters indicate the place of such factors as heredity, trauma, onset, clinical course and age incidence in the diagnosis of nervous disease, together with the main points in the localisation of the disorder.

A reasonable knowledge of the anatomy involved is presumed in the reader. We would suggest that a more liberal allowance of diagrams would render the work even more acceptable to the junior reader, for whom it is intended. The 14 illustrations included are all good, and the binding, paper, and printing quite up to the high standard we have come to expect from the publisher in question. We believe a sacrifice of quality to price would have gained for this book the place it deserves on the necessarily limited shelf of every final year student. Its probable restriction to the confines of a reference library seems to be a great pity.

CLINICAL SURGERY

Manual of Surgery. By ALBERT CARLESS, C.B.E., F.R.C.S., and CECIL P. G. WAKELEY, F.R.C.S., F.R.S.Edin. 12th Edition. Published by Messrs. Baillière, Tindall & Cox. *Price* 30*s.*

ROSE AND CARLESS deservedly stands in the front rank of surgical text books. The name of Mr. Wakeley now appears in full upon the title page of this, the twelfth edition, which in all respects maintains the high standard of its predecessors.

It must be difficult not to allow a book which has secured a large following to rest upon its laurels, but the present authors evidently feel surgery to have advanced so rapidly from the status of a craft to a position from which it may claim to be regarded as the most scientific branch of medicine, that its latest trends need to be followed very carefully indeed, even in what is essentially a book for the student. To that end they have eliminated a great deal of the definitely obsolete and replaced the deleted matter by accounts of newer and more practical measures. As a result of this treatment the present volume is slightly smaller than the previous edition. This, of course, is no disadvantage, for the book, while retaining its well known and somewhat ecclesiastical appearance, is now more than ever before a convenient half-way house between the larger systems of surgery and the smaller summaries.

We found the fracture section thoroughly up-to-date, and the admirable radiographic supplement somewhat extended and improved. In addition, the practice of the surgical specialist is adequately dealt with, but not over done, and the essentials of surgical anatomy are not neglected.

For pure reference or a systematic course of reading in surgery we can imagine no better book.

Minor Surgery and Bandaging. By GWYNNE WILLIAMS, M.S. 19th Edition. Published by Messrs. J. & A. Churchill, Ltd. *Price* 10*s.* 6*d.*

THIS further edition of a well-known book has been revised, particularly the section on fractures and anæsthetics.

It can be highly recommended as a complement to a larger text book of surgery, containing, as it does, much sound practical knowledge.

We do not agree with some minor points, such as the Delbet treatment of Pott's fracture, and the opening of a quinsy with a knife.

The chapter on anæsthetics is too brief to be of great use, but, apart from this, it is well worth reading.

Clinical Surgery. By J. W. DOWDEN, M.B., F.R.C.S.E. Published by Messrs. Oliver & Boyd. *Price* 1*s.* 6*d.*

THIS is a chatty little book which might be read with advantage by every surgical ward clerk. It is not, and does not pretend to be, a comprehensive work, but it would form a very pleasant supplement to *Instructions for Surgical Case Taking,* which is presented to everyone on his first appointment in the wards.

PEDIATRICS

The Principles of Ante-Natal and Post-Natal Child Hygiene. By W. M. FELDMAN, M.D., M.R.C.P., F.R.S. Published by Messrs. John Bale, Sons, & Danielsson. *Price* 25*s.*

MEDICAL men and all those interested in infant welfare have long felt the need of a book on child hygiene, and Dr. Feldman's very excellent work adequately fulfils this want. It is written as a companion volume to *The Principles of Ante-Natal and Post-Natal Child Physiology,* and, like it, is the first of its kind in any language.

The book is divided into three parts—Prolegomena, Ante-Natal Hygiene and Post-Natal Hygiene.

The first part outlines the history of infant welfare from the Assyrian Period to the present day. This is followed by an exceedingly interesting

chapter on the biometrics of child hygiene; the author fully goes into the values and fallacies of statistics relating to child welfare, and he does this in a very clear and readable way. The last chapters of this section deal with infant and maternal mortality.

The second part principally deals with the care of the expectant mother, but it also contains some valuable notes on eugenics and the physiology of the fœtus.

The last part—the longest and most valuable portion of the book—summarises in considerable detail the mental and physical ailments of the young child. There are some valuable notes on the education of children and the various systems are fully gone into.

The pictures and photographs are good and the print clear.

This is a very valuable book indeed, and anyone who has much to do with children will find it well worth buying.

BIOCHEMISTRY

A Text Book of Biochemistry for Students of Medicine and Science. By A. T. Cameron. Published by Messrs. J. & A. Churchill. *Price* 15*s. net.*

THIS book undoubtedly belongs to the better class of medical text book. It is clear and it is accurate, and, in so far as the subject permits, it makes good reading. In particular, Chapter I, "A Bird's-Eye View of the Subject," strikes exactly the right note for a medical or scientific text book.

It has, moreover, the advantage, rare in medical text books, of giving references to more advanced books and to original papers. Too many elementary text books of biochemistry satisfy themselves with little more than tabulated lists of the chemical composition of substances found in the body. This not only makes intolerably dull reading, but also gives a very inadequate picture of the beautiful mechanisms of adjustments and re-adjustments which are constantly taking place.

This book, while it gives all the statistical information necessary both for examinations and the understanding of the subject, also includes sufficient information of the mode of action of the substances to make, in some sort, those dry bones to live.

It is said that the book has been officially recommended to those intending to take the Primary Fellowship Examination. Those responsible for the recommendation should be congratulated upon their choice.

DENTAL SURGERY

Dental Metallurgy. By A. Johnston Brown, L.R.C.P., L.R.C.S.(Edin.), L.D.S. Outlines of Dental Science. Vol. XI. Published by Messrs. E. & S. Livingstone, Ltd. *Price* 7*s.* 6*d.*

THIS little book is well and concisely written. As its author intended, it is "merely an outline of Dental Metallurgy." The student will find much that is of practical value, but in order to found a sound knowledge of the subject he should turn to fuller text books. This book will be useful for rapid revision.

Outlines of Dental Science. Vol. VII—Pathology. By G. L. Dudley Buxton, L.D.S. Published by Messrs. E. & S. Livingstone. *Price* 7*s.* 6*d.*

IN this little book, the seventh of a series on *Outlines of Dental Science*, the author has made so bold as to present dental pathology as a separate entity instead of combining it with dental surgery, as in the usual text book.

The book is stripped of all padding, very readable; in fact, an ideal book to refresh one's memory before the final examination.

The micro-photographs and illustrations are well produced and keep pace with the text, an especial virtue in a book such as this.

The chapters on orthodontomes and tumours of the jaws are of particular interest. The volume, indeed, accomplishes *multum in parvo.*

The Annual Reports for 1926 *of the Royal Dental Hospital of London.* Edited on behalf of the Medical Committee by A. T. Pitts, D.S.O., L.R.C.P., M.R.C.S., L.D.S. Published by Messrs. John Bale, Sons, & Danielsson, Ltd. *Price* 7*s.* 6*d.*

AN excellent volume indeed, bristling as it is with contributions from so many authorities, and illustrating the trend of modern opinion in dentistry. The article on "The Lower Third Molar" by H. Stobie deals lucidly with the anatomy, abnormal position and treatment of this molar, which can prove so unpleasant to its host.

J. G. Turner, F.R.C.S., has contributed several interesting notes, illustrated by some excellent microphotographs. A very practical article on "Stability in Full Denture Prosthesis," by Dr. Fish, is one from which everyone can learn something and most of us a great deal on the attainment of this desirable property. The article on "The Management of Orthodontic Cases," by A. T. Pitts, deals most ably with the pro's and con's of treatment in the various irregularities and types of patient.

The book is to be highly recommended to any senior student, and Dr. Fish's article alone makes it of great value to the dental practitioner.

Sport.

Golfing Society.

A WARNING

MEMBERS of the Society are advised that the lake running through the Sidcup Golf Course is dangerous, and that paddling there is strongly discouraged.

The Committee will take no responsibility for any accident which may occur during such an unseemly pastime.

It has recently come to our notice that one Sunday afternoon when a cold north wind was blowing that a certain member of the Society was seen paddling in the lake.

The object of such a queer diversion from the Royal and Ancient game was at first obscure, but on inquiry our correspondent was informed that, whilst the ball was on the green, the club, a niblick, which had been used to propel the ball to its destination, was itself immersed in the middle of the lake !

The owner-paddler declined to make a statement.

Now that the extra hour of daylight has arrived it is hoped that all members of the Society will avail themselves of the facilities granted to them by the kind permission of the directors of the Sidcup Golf Club.

The green fees are 2*s.* 6*d.* for the whole day, and 5*s.* for Saturdays and Sundays.

There is a frequent service of trains from London Bridge.

Entries for the Staff Cup may now be made, and it is hoped that an even bigger entry than last year will be received. In 1926 there were 19 competitors. Last year there were 23 competitors.

The list is posted in the Colonnade, and members are asked to put up their names, with their lowest club handicap, as soon as possible. To any member who has no handicap one will be allotted, on the return of two cards, so as to enable him to compete for the Cup. The programme for the season shows an increase to 12 matches, not including the Inter-Hospital Cup matches.

A Monthly Competition, Bogey and Medal alternately, is held at Sidcup on the first Wednesday in each month.

Competition

April Monthly Competition—C. D. Malone (9), 2 down.

Hospital Information, etc.

Pass List.

THE SOCIETY OF APOTHECARIES OF LONDON

April, 1928

Materia Medica and Pharmacy

G. Smith

Midwifery

C. C. F. White

CONJOINT BOARD

March and April, 1928

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Midwifery

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D. T. Jones
S. A. Scorer
G. W. Oliphant
E. G. Rogers
T. C. Lansdale

* Have now completed the Examination

UNIVERSITY OF CAMBRIDGE

DIPLOMA IN PUBLIC HEALTH, HYGIENE AND TROPICAL MEDICINE AND HYGIENE

PART I

April, 1928

C. L. Brockington
P. C. Wickremesinge

DIPLOMA IN MEDICAL RADIOLOGY AND ELECTROLOGY

April, 1928

PART II

A. K. S. Venkatachala

Papers by Guy's Men.

W. M. Mollison, M.Ch. Laryngeal Case for Diagnosis, *Proc. Roy. Soc. Med.*, 1928, xxi, 1,031 ; *Sect. Laryngol.*, 43.

Change of Address.

Kenneth G. Sharvill, 6, Cavendish Place, W.1. 'Phone : Mayfair 0541.

N. S. Narasimhean, c/o Imperial Bank of India, London, E.C.

W. H. Dowell, Castle Donington, Leicestershire.

Speciality.

THE MEDICAL AGENCY, Watergate House, York Buildings, Adelphi, W.C.2

THE Medical Agency, which for many years has been under the supervision of Mr. J. A. Reaside, a name well-known to many of our readers, is now under the personal supervision of Mr. William H. Grant. (Further particulars of this alteration will be found in the interesting letters published in this issue).

Although the business is being carried on at the same address as previously, the offices have been considerably extended, and every possible improvement made to help in meeting the requirements of medical men—in the supplying of locum tenens, buying and selling of practices, the finding of assistants and in many other directions.

It will, no doubt, also interest readers to know that a day and night telephone service has been instituted for cases of urgency. Mr. Grant will always welcome inquiries from Guy's men, and will appreciate a personal visit.

Births.

STOKER—On March 22nd, 1928, to Elsie Margaret (née Macqueen), the wife of G. Morris Stoker, M.R.C.S., of Holmbury, Mitcham—a son.

Guy's Hospital Gazette.

(ESTABLISHED 1872)

A Journal of Hospital News, Medicine, Surgery and Dentistry

Published on alternate Saturdays. Price **9d.**

Editorial and Publishing Office :—THE COUNTING HOUSE, GUY'S HOSPITAL, LONDON, S.E.1.

Annual Subscription, including *Directory of Guy's Men (Medical and Dental)*, **12s. 6d.** Post Free, payable in advance.

The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

Advertisement Rates on application to " The GAZETTE Manager," Counting House, Guy's Hospital, S.E.1. Telephone : Hop 1086.

GUY'S HOSPITAL DENTAL SCHOOL

TIME TABLE—SUMMER TERM, 1928.

Subject	Lectures	Place	Practical	Place
INORGANIC CHEMISTRY	Tuesdays and Thursdays at 9.30 a.m., commencing on Thursday, May 3rd	Chemistry Laboratory	Tuesdays and Thursdays at 3 p.m., commencing on Thursday, May 3rd	Chemistry Laboratory
ORGANIC CHEMISTRY	Tuesdays and Thursdays at 2 p.m., commencing on Thursday, May 3rd	Chemistry Theatre		
PHYSICS	Tuesdays and Thursdays at 10.50 a.m., and Tuesdays at 12 noon, commencing on Tuesday, May 1st	Class Room IV	Mondays 10–1 p.m. and 2–5 p.m., commencing on Monday, May 7th	Physics Laboratory
DENTAL METALLURGY ..	Mondays, Wednesdays and Fridays at 12 noon, commencing on Wednesday May 2nd	Chemistry Theatre	Thursdays at 2 p.m., commencing on Thursday, May 10th	Metallurgical Laboratory
DENTAL PROSTHETICS ..	Mondays at 4 p.m., commencing May 7th	Anatomical Theatre	Fridays at 1.45 p.m., commencing on May 4th	Dental Laboratory
ANATOMY	*Elementary Lectures*— Mondays 9.30 a.m. and Wednesdays 11 a.m., commencing Wednesday, May 2nd	Anatomical Theatre	Other times to be arranged. See separate Notices	
PHYSIOLOGY	Thursdays at 10.30 a.m., commencing May 10th	Physiological Theatre	Thursdays at 11 a.m., commencing May 10th	Experimental Laboratory
DENTAL ANATOMY ..	Fridays at 12.15 p.m., commencing May 4th	Physiological Theatre		
DENTAL HISTOLOGY	Mondays at 2 p.m., commencing May 7th	Physiological Theatre	Mondays at 2.30 p.m., commencing on May 7th	Histology Laboratory
DENTAL DISEASES OF CHILDREN ..	Fridays at 4 p.m., commencing May 4th	Anatomical Theatre		
OPERATIVE DENTAL SURGERY	Thursdays at 4 p.m., commencing May 3rd	Anatomical Theatre		
DENTAL MATERIA MEDICA	Thursdays at 9.15 a.m., commencing May 3rd	Physiological Theatre		
DENTAL BACTERIOLOGY ..	Tuesdays, Wednesdays and Thursdays at 12.15 p.m., commencing Tuesday, April 17th	Pathological Theatre	Mondays at 4 p.m., commencing April 23rd	Pathological Class Room

EDS. { O. P.
E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLII. *May 19th, 1928.* *Number 1039*

PASSIM

As the Persian sage says, "Accidents will happen." When the sage did say it the truism was probably considered one of remarkable insight and wit. No doubt it was included among Persian "Sayings of the Week." Now, in our more civilised times, we prefer to regard it as a platitude of the greatest banality, and for this reason we are compelled to apologise for opening our Passim with it. But it goes against the Editorial grain to apologise for it, since it is just in these very civilised times that the platitude is truest. The column labelled Deaths from Accidents is rapidly becoming a daily feature of our newspapers—deaths by land, by sea and by air are shouted at us in big black capitals every morning. But we are concerned here, in Passim and at Guy's, with one particular section of the accidents that will happen—the motor accidents. "Motor accidents" is just now a phrase with which to conjure for would-be correspondents with newspapers. But, to quote another Persian sage, let us begin at the beginning.

The broad purpose of each of the voluntary hospitals is to deal with cases of illness and accident among people living within a certain area of the hospital. In addition, of course, it treats patients who are sent up by doctors, usually general practitioners who have trained and qualified at the particular hospital in question, irrespective of the area from which the doctor sends them.

Cases of injury from motor accidents come within a different category from either of these. In the first place they include, more often than not, people who come from outside the hospital area, and, in the second place, they come, or are brought, by police or ambulance without any introduction from a doctor. These cases range in severity from a cut finger to a severe concussion or cerebral hæmorrhage. In any case, the hospital is put to certain expenses, which may amount to only the cost of a piece of lint and a bandage, but which may include the use of a bed for several weeks or months. Here, then, we have patients who are not really entitled to treatment from the hospital, using up the money and the beds which are urgently needed for those who are entitled to them.

The question then arises, What are we going to do about it? To refuse these cases treatment is obviously impossible; no case can be refused treatment. The alternative is for those patients who come under this category to contribute something towards their cost. They might do this voluntarily, but, judging by all accounts, they do not—in the majority of cases anyhow. The reason for this is somewhat obscure, unless it be that the grievance nursed by the patient at being involved in an accident at all is irrationally carried on against the hospital that treats them! Anyhow, the fact remains that they do not show financial gratefulness, and many general practitioners will agree that the majority of accident cases that are brought under their care may be put down as bad debts. Even in the case of third party risk insurances there is a difficulty. The insurance companies express themselves perfectly willing to pay for the treatment of these cases, but, before doing so, they are naturally obliged to receive accounts. Their point of view is brief, to the point and obvious; bills cannot be paid until they have been received. But the voluntary hospitals are equally unable to present accounts!

And that is the crux of the whole question. To solve it the suggestion has been made that the insurance companies should include, for a small additional premium, an extra clause in their motor insurance policies, which insures the holder of the policy or third party treatment at a hospital for the injuries received in a motor accident. In this case particulars of the accident and treatment will be accepted from the holder of the

policy by the insurance company, who will forward a certain sum direct to the hospital. There are obvious difficulties in this scheme, such as the relationship which the amount paid by the insurance company shall bear to the treatment given by the hospital, but it is distinctly a hopeful scheme, and one which the insurance companies seem prepared to try. Some, we believe, have already embarked on such ventures.

The whole question is, we understand, to be thrashed out shortly by a special committee, working in connection with the King Edward VII Hospital Fund. There is now in residence at the Front Surgery a little black book, in which particulars of all cases brought in as the result of motor accidents are entered. This book has been in existence for just three months, and during that time 148 entries have been made in it. This means that 1.65 cases have been treated daily. Of the total, 22 have been taken into a ward, and therefore this number, putting the figure at its very lowest, may be considered to have been serious accidents. Examining these figures in more detail we find that of the 148 cases recorded, 55, or rather over a third, have been cases in which private cars were concerned in the accident; in 29 cases motor bicycles were concerned, lorries in 21 cases, motor vans in 18 cases, motor omnibuses in 11 cases and the rest are divided between taxis (5), bicycles (3), trams (2), tricycles (2), an ambulance and a charabanc. The motor bicycles and the lorries appear to have been the most thorough in their handiwork, as 6 cases (roughly 20 per cent.) due to the former and 7 (roughly 33 per cent.) due to the latter have been taken in, while of the large number due to private cars, only 4 (or about 7 per cent.) have been taken in. It must not be forgotten that, while motor bicycles and lorries provide the greater numbers, in the case of the former the victim is usually *riding* his instrument of destruction, while the latter is being ridden over by his. Anyhow, the total numbers are sufficiently large to make us join with Dr. Waldo, the Senior Coroner for London, who holds Courts in Southwark and in the City, in his appeal for steps to be taken to render the streets safer places by providing more refuges for the aged and more playgrounds for the youth.

▭

We have been asked to draw attention to the Notices, posted in the College and Medical School, concerning the prize offered by the British Medical Association for the 1929 Essay. The subject of the Essay is "The Symptoms and Sequelæ of Encephalitis Lethargica, with their Appropriate Treatment." It is open to Final Year medical students at Guy's, the London, St. Bart.'s and St. Thomas's.

▭

On Monday, May 21st, at 1 p.m., Sir William Hale-White, K.B.E., M.D., will deliver an address on "William Harvey, Physician and Physiologist," in the Physiology Theatre. Dr. Herbert French, C.B.E., M.D., will be in the Chair. The address, which is in connection with the William Harvey Tercentenary Celebration, will be open to all medical and dental students.

▭

Heard in the Front Surgery

An old man has appeared complaining of a fish bone sticking in his throat.

A dresser, complete with head mirror and laryngoscope, is holding the latter at the back of the patient's throat, which is fairly sensitive.

Dresser: "I expect it makes you feel a little sick, doesn't it, daddy?"

Patient: "Oh, no, it's all right, doctor. I ain't looking straight at you, I'm looking above yer 'ead."

▭

We are asked to state that there is absolutely no foundation for the rumour that the B.B.C. have made arrangements to broadcast the next Resident "Going Off" Dinner. We are inclined to believe that it would be impossible to provide a microphone sufficiently strong to withstand the volume and variety of sound produced on ordinary occasions, so that anything in the nature of a special event would be quite out of the question.

▭

We offer our heartiest congratulations to Mr. S. Shone, who has been awarded the Beaney Prize in Pathology.

▭

Fencing enthusiasts will be glad to learn of the splendid victory gained by Mr. E. L. Monkhouse in the Epée Competition of the Inns of Court Fencing Club. This prominent member of the Hospital team is to be congratulated on his convincing success against the best of the famous "Red Devils."

▭

It is with deep regret that we record the death of Miss M. M. Jameson, whom many will remember as Sister Lydia. On leaving the hospital last year, Miss Jameson secured a post with the Cunard Steamship Company and joined the S.S. *Franconia*, then starting on a cruise round the world. Her death on May 10th, from a sudden pneumonia was reported during the crossing of the South Atlantic, a few days out from Buenos Aires.

Athletic Sports.

IN connection with the Annual Athletic Sports it is interesting to note that it is just 35 years ago this month since the formal opening of the Clubs' Union ground. We publish below a facsimile of the programme of events on that occasion. The Sports this year are to be held on Saturday, May 26th, at 2.30 p.m., when Mrs. J. M. H. Campbell has very kindly consented to give away the medals and prizes. We can confidently predict an enjoyable afternoon's entertainment for spectators, and it is hoped that a much greater measure of support will be forthcoming than when the Sports have been held in mid-week. The band of the 1st Division London Royal Engineers will be in attendance, and tea and refreshments will be obtainable at the ground.

Guy's Hospital

Clubs' Union.

FORMAL OPENING OF THE GROUND,

ON

WEDNESDAY, MAY 3RD, 1893.

Reception—3 to 6,

By the President and the Treasurer, and Mrs. Durham and Mrs. Brailey.

CRICKET MATCH

BETWEEN

Past and Present Students of Guy's Hospital.

PAST.	PRESENT.
W. J. SCOTT (Capt).	C. J. FRANCIS (Capt).
A. D. FRIPP.	R. B. STAMFORD.
S. WACHER.	E. T. SHORLAND.
E. T. D. MITCHELL.	W. I. HANCOCK.
W. G. MITCHELL.	M. P. JONES.
H. BOLUS.	H. T. HICKS.
E. REID.	R. T. FITZ-HUGH.
J. H. BETTINGTON.	C. A. TROUNCER.
S. G. LAYMAN.	F. J. NICHOLLS.
J. D. CRUIKSHANK.	B. B. HAM.
G. W. MITCHELL.	C. H. BRYANT.

LAWN TENNIS TOURNAMENT.

The Past and Present Students will be represented by the following Players :—

	PAST.	PRESENT.
1.	H. T. HOLMAN. / W. H. FISHER.	W. I. HANCOCK. / G. B. WEBB.
2.	W. E. STURGESS-JONES. / C. R. COLLEY.	E. D. HANCOCK / A. V. CLARKE.
3.	W. H. PEAKE. / J. E. COULSON.	B. PENDRED. / A. H. PARTRIDGE.

Pernicious Anæmia.

A Clinical Lecture by Dr. N. Mutch, M.D.

GENTLEMEN,—Pernicious anæmia, like most so-called diseases, is a condition easy to recognise but difficult to define. It has long been accepted as a hæmolytic anæmia—that is, one in which the patient's blanched appearance is not due to retarded blood formation but to abnormal blood destruction. The manifestations of this hæmolysis are quite clear. Bilirubin appears in the blood-stream; certain viscera, particularly the liver, become charged with iron from the disintegrating hæmoglobin, and that scavenger of effete corpuscles, the spleen, enlarges until it can be palpated below the costal margin. The accumulation of iron is easily demonstrated post-mortem by applying solutions of acid and potassium ferrocyanide to the cut surface of the liver. On the screen is a reproduction of a specimen treated in this way, and from the depth of its blue colour you can judge the extent to which iron storage has taken place.

At this stage in the study of pernicious anæmia the pathologists rushed their fences and jumped to the conclusion that some hæmolytic agent introduced from without would prove to be the primary cause of the condition, little imagining that, as now seems probable, hæmolysis may be merely a sequel and not the origin of the trouble.

Conspicuous lesions in the digestive tract—the sore mouth, achylia and disturbances of stomach and bowel—directed the search towards this system. Streptococci were isolated from the mouth, others were rescued from the stool and even wound up in buckets from the duodenum. They doubtless flourished through the length and breadth of the intestine, fostered by the rich pabulum of imperfectly digested food which the feebleness of the gastric juice permits to reach the lower levels of bowel.

Some of the streptococci secured from these sources were capable of producing hæmolysis, and from time to time pathologists and clinicians have succumbed to the temptation of hailing them as the prime cause of the disease. *B. Welchii* also grows abundantly in the bowel. It, too, produces hæmolysis, and is still the subject of much controversy.

The biochemists in their attempts to determine the precise chemical nature of the hæmolytic agent have been attracted by unsaturated fatty acids, which possess hæmolytic powers antagonised by cholesterol. Blood analyses seem to show that in pernicious anæmia the fatty acid content rises and the cholesterol value falls, facts which may be misleading when used as a basis for inference and argument, but interesting facts nevertheless.

I need not detain you longer with the subject of hæmolysis. Its literature is voluminous, but other aspects are now recognised as being of still greater importance. Although pernicious anæmia is undoubtedly a hæmolytic anæmia, it must be admitted that very few hæmolytic anæmias are of the pernicious type. What criterion, then, has served the arbitors of diagnostic systems to differentiate pernicious anæmia and raise it to the rank of a named disease? The distinguishing features are to be found in the red corpuscles themselves. Amongst the many changes in the blood, the most conspicuous ones are those which may be termed the big three—the over-sized red corpuscle named macrocyte, the large nucleated red cell or megaloblast and the high colour index. The day may come when pernicious anæmia is known as macrocytic or megaloblastic anæmia. These cells not only float in the blood-stream, but crowd the bone marrow, and similar ones are found even in the interacinous spaces of the liver.

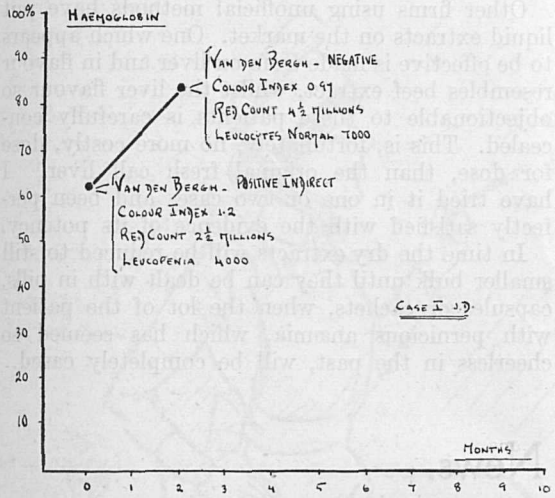
Many have considered these oddly-formed red blood corpuscles as unfledged cells cast out hastily from the marrow by their distraught parents to make good the ravages of the invading hæmolysins. This hypothesis is plausible, but fails to explain why these large cells do not appear in the anæmia of recurrent hæmorrhage—in such cases as leaking duodenal ulcers, bleeding piles and fibrotic uterus, where intense degrees of anæmia may persist over long periods of months or even years. On reflection, it occurs to one that the harmful outside agent to be sought for in pernicious anæmia may not be a hæmolysin at all, but an agent which acts on the bone marrow, either directly or through the liver, and perverts it to a megaloblastic state, in which abnormal distorted red cells are produced and then destroyed by the natural processes of the body.

This view is strongly supported by recent research on the part played by the liver in pernicious anæmia.

In 1925, Robbins and Whipple, working on experimental anæmia in dogs, showed that a diet rich in ox liver increased the rate of blood regeneration. Their findings were subsequently confirmed and amplified by Peabody.

In 1926 Minot and Murphy reported their remarkable success in the treatment of pernicious anæmia with liver given by the mouth, and, later, gave a detailed analysis of 125 cases.

In 1927 E. J. Cohn eliminated 99 per cent. of the liver substance and obtained a 1 per cent. fraction nitrogenous but not protein in nature, which produced similar results, and reported on 20 patients treated with this fraction.



Case 1. J.D.

The effect of liver treatment is dramatic and is just as definite as the convulsions which follow an overdose of strychnine or the rapid resolution of a gumma after Novarsan. Hæmoglobin and the red cell count rise rapidly. On the screen are shown hæmoglobin curves of patients treated by this method in recent months (Figs. 1, 2, 3). As you will note, the promptness and completeness of the response at once dispels any idea one might have formed that the effect is a spurious one and that one has fallen a victim to the fallacy of coincidence.

The quickness of recovery is indicated by Minot and Murphy's statement that after three months' treatment the blood count reached 5 millions or more per cu. mm. in more than one-third of their most severe cases.

Uniformity is shown by the fact that of 125 cases only 6 failed to attain a blood count of 4 millions.

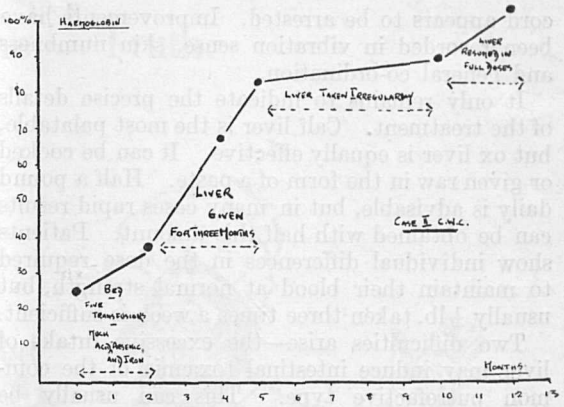
Permanence is suggested by all observations up to date :—

60 patients after 1 year showed an average count of 4.5 mill.

10 patients after 2 years showed an average count of 4.7 mill.

3 patients after 3 years showed an average count of 4.8 mill.

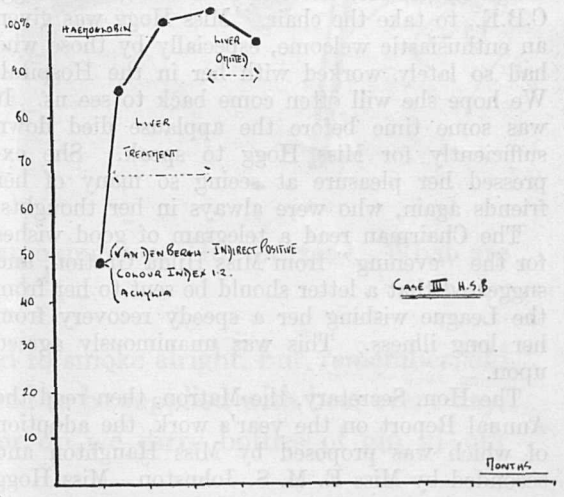
Time alone can show how these patients will fare in later years.



Case 2. C.W.C.

To secure these results the liver diet must be taken persistently, even after the blood count has become normal. The colour index recovers more slowly and the macrocytic condition of the blood, though modified, can be detected long after the hæmoglobin content has risen. Bile pigments quickly disappear from the blood serum, an event which suggests that hæmolysis is not the cause of the abnormal condition of the blood, but a simple sequela. The glossitis clears quickly and the gastro-intestinal symptoms diminish, but the achylia persists, facts which discredit the older views concerning the primary importance of infective streptococci in the mouth.

The general all-round improvement in health is astounding, and anyone who has seen the pale enfeebled patient changed during the course of a few weeks into a vigorous robust full-blooded man by the incredibly simple expedient of adding liver to his diet will never forget the impression made on him. Unfortunately, the central nervous troubles persist, although the active process in the



Case 3. H.S.B.

cord appears to be arrested. Improvements have been recorded in vibration sense, skin numbness and general co-ordination.

It only remains to indicate the precise details of the treatment. Calf liver is the most palatable, but ox liver is equally effective. It can be cooked or given raw in the form of a paste. Half a pound daily is advisable, but in many cases rapid results can be obtained with half this amount. Patients show individual differences in the dose required to maintain their blood at normal strength, but usually ½ lb. taken three times a week is sufficient.

Two difficulties arise—the excessive intake of liver may induce intestinal toxæmia of the common putrefactive type. This can usually be avoided by stressing the fruit, salad and crude cereal elements in the diet and by giving some absorbent and a little liquid paraffin. The second difficulty is the aversion of certain patients to the diet. Some, indeed, have died rather than submit to the nauseating experience. In most cases, however, there is not much difficulty in persuading patients to persevere.

Substitutes will soon be found. The Medical Research Council have published a suitable method of preparing dry liver extract in an active form. The details are based on the American method of Cohn and his co-workers. Several of the leading drug houses now manufacture this extract, but it is still so expensive that the daily dose of ½ lb. of fresh liver costs 4*s*. 6*d*. in this extracted powder form.

Other firms using unofficial methods have put liquid extracts on the market. One which appears to be effective is made from ox liver and in flavour resembles beef extract, whilst the liver flavour so objectionable to these patients is carefully concealed. This is, fortunately, no more costly, dose for dose, than the original fresh calf liver. I have tried it in one or two cases and been perfectly satisfied with the evidence of its potency.

In time the dry extracts will be reduced to still smaller bulk until they can be dealt with in pills, capsules or cachets, when the lot of the patient with pernicious anæmia, which has seemed so cheerless in the past, will be completely eased.

Nursing News.

ON Friday, May 4th, the Nurses' League held their Annual General Meeting and Dinner. Every seat was filled in the large Dining Hall, two extra small rooms being used this year to cope with the demands for tickets. The tables looked charming with vases of yellow tulips, and Home Sister provided an excellent dinner.

The meeting was held in the large sitting room. The President, Lady Bonsor, whom everyone was delighted to see, invited Miss Margaret Hogg, C.B.E., to take the chair. Miss Hogg was given an enthusiastic welcome, especially by those who had so lately worked with her in the Hospital. We hope she will often come back to see us. It was some time before the applause died down sufficiently for Miss Hogg to speak. She expressed her pleasure at seeing so many of her friends again, who were always in her thoughts.

The Chairman read a telegram of good wishes for the "evening" from Miss Hilda Gration, and suggested that a letter should be sent to her from the League wishing her a speedy recovery from her long illness. This was unanimously agreed upon.

The Hon. Secretary, the Matron, then read the Annual Report on the year's work, the adoption of which was proposed by Miss Haughton and seconded by Miss E. M. S. Johnston. Miss Hogg presented the prizes and medals for 1927 and for the Needlework and Photography Exhibitions.

These exhibits were a great improvement on last year, and it is hoped there will be still more contributions next year.

Votes of thanks then followed :—

To the retiring Hon. Members of Council—The Hon. Mrs. Molyneux, Mrs. Layton and Mrs. Lauriston Shaw. Proposed by Miss D. M. Smith (Assistant Matron), seconded by Miss Fletcher.

To Mrs. Hughes, the Hon. Treasurer. Proposed by Miss Robins, seconded by Miss Coulton.

To the Matron, Hon. Secretary. Proposed by Mrs. Hinchcliffe, seconded by Miss Hedderwick.

To the Secretary, Miss Smith. Proposed by Miss D. L. Holland, seconded by Miss De Lavelege.

To the Chairman. Proposed by Miss Martin, seconded by Miss Banbury.

The members then partook of coffee and exchanged news with old acquaintances. There was little chance of more than a handshake with Miss Hogg—so many wanted to say how glad they were to see her.

REPORT OF THE YEAR'S WORK

Between 80 and 90 Members have been transferred to the Past Members' Section of the League during the year.

A "Home" Truth.

SARAH GAMP: "My goodness! A smoking-room for nurses! What are things coming to?".

STRINGS: "Yes, we are allowed to smoke alright, but, remember, old dear, we don't need to be supplied with beer every day, like you did, nor do we carry bottles of gin in our pockets."

184 Nurses have spent week-ends at the Cottage, and nearly 1,500 short visits have been made; 15 Past Members have also visited the Cottage for short periods during the year.

1,550 volumes have been taken out of the Nurses' Library during the year, and about 30 new books have been added.

The Swimming Club has not been so successful in winning cups for swimming this year. In the Inter-Hospital Sports, held at the Bath Club, our best swimmer was prevented from swimming by illness, and we had the misfortune to be disqualified in the Team Race in the first heat, through one member of the team starting a fraction too soon.

In the Inter-Hospital Nurses' Swimming Club Gala, held at the Great Smith Street Baths, we were successful in carrying off several prizes, but just failed to bring back the Countess of Donoughmore's Cup.

The Nurses' Annual Gala, held in our own bath in the Nurses' Home, was a great success. The most exciting event of the evening was the Team Race, between the various Women's Departments in the Hospital, for the Matron's Cup, presented by Miss Hogg. A team of four each was sent in by the Massage and Electrical Schools and the Administrative and Nursing Staffs. The Cup was won by the Massage Team in splendid style, the Nurses' Team coming in second. Lady Fripp's Cup was keenly competed for, and was won by Nurse G. Smyth for the second time in succession. There were several other races, the prizes for which were provided by the Matron. Miss Hughes, the Matron of the Infants' Hospital, Vincent Square, Miss Daly of the Bath Club and Mr. Jarman kindly acted as judges, and the cups and prizes were presented by Lady Fripp.

The Nurses' Tennis Club again took part in the Tennis Tournament arranged by the *Nursing Times*. We played five rounds, but in the semi-finals we met our old opponents St. Thomas's Hospital Nurses, who won the match.

The Fagge Cup Final, for which there were many entries, was played off in November, and won by Nurse G. Major Lucas, after an excellent game against Nurse V. Johnson.

Many friendly matches were also played during the season: against Miss James' Team, Dartford Training College, the Administrative Staff and Mrs. Scott and Miss Fagge's Team.

The Nurses' Choral and Dramatic Society, in conjunction with the Guy's Hospital Musical Society, have had a very successful season. Four performances of *The Mikado* were given at the Guildhall School of Music in December, and a sum of £50 was handed to the Hospital, after all expenses had been paid, leaving a good balance in hand.

The Nurses' Debating Society held a most successful debate in the Nurses' Home on November 24th, the first since November, 1925, the subject being "Marriage versus Career." On the close of the debate "Marriage" was carried by a large majority.

Further contributions received during the year brought the Nurses' League Bicentenary Appeal Fund up to £2,424 15*s*.

The two private rooms have again been occupied by sick Members of the League for the greater part of the year.

The Nurses' Hockey Club played three matches during the season, but were unable at any time to form a complete team, some of the Massage pupils filling the vacancies.

As a sufficient number of Nurses to form a team have not come forward this year it has been decided to cancel this section for the present.

In May last the Governors received an offer from a client to buy the piece of land, 130 ft. by 62 ft., immediately above the Cottage, but before closing with the offer they gave the Nurses' League the option of purchasing the ground. After due consideration the Council thought that it would be a wise thing for the League to buy the land in order to prevent buildings being erected close to the Cottage, but they felt that the League funds were not at that time large enough to enable them to buy the land outright, and they asked the Governors to hold the land until such time as the League could complete the purchase. At a meeting of the Court of Governors in July the Governors generously agreed to grant the Nurses' League a 999 years lease for the piece of land on payment of a rental of £3 per annum. On hearing this our good friends, Lord Revelstoke and Sir Cosmo Bonsor, very generously offered to defray the cost of laying out the land as a Wild Garden. The work has just been completed, and I am sure the garden will give great pleasure to our Nurses during the summer.

The Exhibitions of Needlework, Photographs and Paintings now on view in the sitting rooms are a great improvement on those of last year. Mrs. Burgwin, O.B.E., who again kindly came and judged the needlework, was very pleased indeed with the high standard of the work sent in. The Leatherwork in the Miscellaneous Class showed real craftsmanship, and the skill and ingenuity of the maker of the little thatched cottage tea cosy was highly praised.

There is also a great increase in the number of photographs and paintings sent in, and some excellent work is shown.

Since our last meeting I much regret to record the death of one of our Vice-Presidents, the Countess of Bective, who died in February last, and one Past Member of the League, Miss Mabel Elphick.

The Countess of Bective had always taken a great interest in the League, ever since it was founded by Dame Sarah Swift, and had been a most generous subscriber to the funds. She had attended the meetings as an Honorary Member of Council for several years, and was elected a Vice-President of the League in January, 1913. Lady Henry Bentinck, her daughter, has sent me a photograph—now on view on one of the Photographic Screens in the Sitting Room—which we shall have framed and hung in the Nurses' Cottage, in which Lady Bective took such a keen interest for so many years.

Miss Mabel Elphick, who died at Sidmouth on October 19th, 1927, after a long illness, entered Guy's Hospital as a Probationer in 1904, and on completion of her training in May, 1907, held several Hospital appointments at home and abroad until 1915, when she had to give up her nursing work on account of serious heart trouble.

I have much pleasure in presenting the Financial Statement for the year, and I am pleased to say that we are again in the happy position of having a very satisfactory balance to carry forward. The Hon. Members' subscriptions amount to £50 0*s.* 6*d.*, the Past Members' subscriptions and composition fees to £133 0*s.* 6*d.* and the Present Members to £122 0*s.* 3*d.* The subscriptions and grants have again more than covered the working expenses of the Cottage and the different Clubs, and we have also paid a sum of £29 3*s.* 4*d.*, part cost of railway tickets to Honor Oak Park. Two large items in our expenditure this year are the printing of the new *Register*, £192 8*s.*, and the making and laying out of the extra piece of land as a Wild Garden, £168.

Our income for the year—which includes two most generous donations from Lord Revelstoke and Sir Cosmo Bonsor—amounts to £920 19*s.* and our expenditure to £930 4*s.* 8*d.* We have to draw from our balance of last year—£302—a sum of £9 5*s.* 8*d.*, which leaves us with a balance at the bank of £284 9*s.* 7*d.* to meet the expenses of the coming year.

GUY'S HOSPITAL PAST AND PRESENT NURSES' LEAGUE

Income and Expenditure Account for the Year ended February 29th, 1928

INCOME

	£	s.	d.	£	s.	d.
To *Subscriptions*—						
Hon. Members	50	0	6			
Past Members, Annual	61	12	6			
„ Composition Fees	71	8	0			
Present Members	122	0	3			
				305	1	3
„ *Grants*—						
Guy's Hospital	200	0	0			
Raphael Nurses' Fund	26	0	0			
				226	0	0
„ *Donations*—						
Sir Cosmo Bonsor, Bart	200	0	0			
Lord Revelstoke, G.C.V.O.	100	0	0			
				300	0	0
„ Sale of *Nursing Guide*				20	15	6
„ Sale of League Badges				20	3	6
„ Sale of Service Tickets				22	15	9
„ Dividend on 5% War Loan Bonds				26	0	0
„ Refund of Hockey Fees					3	0
				£920	19	0
„ Excess of Expenditure over Income				9	5	8
				£930	4	8

EXPENDITURE

	£	s.	d.	£	s.	d.
By Rent, Rates and Taxes	96	6	11			
„ Household Requisites	11	9	9			
„ Upkeep of Tennis Courts and Garden	72	9	9			
„ Tennis & Garden Requisites	60	14	4			
„ Coal and Gas	35	17	11			
„ Printing & Stationery	48	16	3			
„ Postage and Cheques	17	19	4			
„ Salaries & Health Insurance	58	10	4			
„ Railway Tickets (Past Fare)	29	3	4			
„ Renewals & Repairs to Cottage	26	4	1			
				457	12	0
„ Annual Dinner Expenses (Balance)					3	11
„ Swimming Club Subscriptions & Prizes				1	9	6
„ Hockey Club Subscriptions				4	4	0
„ Needlework & Photographic Exhibition Prizes				8	10	0
„ Wireless Licence					10	0
„ Furnishing				39	17	3
„ League Badges				57	10	0
„ Printing of *League Register*				192	8	0
„ Cost of Making and Laying out of Wild Garden				168	0	0
				£930	4	8

BALANCE SHEET

LIABILITIES	£ s. d.	£ s. d.
To *Bi-Centenary Appeal Fund*—		
Additional Contributions received to Feb. 29, 1928	2 12 0	
Less Amounts paid over to Guy's Hospital (making a total of £2,424 15*s.*)	2 12 0	—
„ *Capital Account*—		
Amounts brought forward from last year	7,479 2 8	
Less Excess of Expenditure over Income for the year ending Feb. 29, 1928	9 5 8	
		7,469 17 0
		£7,469 17 0

ASSETS	£ s. d.	£ s. d.
By *Leasehold Property at Honor Oak Park*—		
Amount brought forward from last year		8,509 6 11
„ *Investment*—		
£650 5% War Loan Bonds at cost		662 4 0
„ Cash at Bankers	284 9 7	
„ Petty Cash in Hand	13 16 6	
		298 6 1
		£7,469 17 0

I have audited the above Balance Sheet and Income and Expenditure Account with the Books and Vouchers, and find them in accordance therewith. The Investments and Cash at Bankers have been verified.

April 19th, 1928.

(Signed) W. J. CURRY,
Corporate Accountant, Auditor.

MEDALS AND PRIZES FOR THE YEAR 1927

The Butterworth Medal

The Butterworth Medal, instituted by Joshua W. Butterworth in 1889, is awarded to all Nurses of Guy's Hospital who shall have completed 5 years' continuous satisfactory service at the said Hospital.

Sister Dorothy M. E. Cross.
Sister Gladys A. E. Dobson.
Sister Doris Gale.
Sister Hilda M. Gration.
Sister Lilian Lee.
Sister Hope Lucas.
Sister Agnes V. Wells.
Sister Brenda W. Wood.
Staff Nurse Beatrice M. Davis.
Staff Nurse Lilian B. Fielder.
Staff Nurse Jeanie U. Mather.
Nurse Mabel D. Thurston.

The Cazenove Medal

The Cazenove Gold Medal is awarded to the Nurse who shall have obtained the highest aggregate percentage of marks in all the Examinations held during 1926 and 1927.

Nurse Margaret H. Stephen.

The Keogh Prize

The Keogh Prize, consisting of Surgical Instruments, awarded to the Nurse obtaining the highest number of marks in the Surgical Examination.

Nurse Nancy M. Ryan.

The Morrison Prizes

The Morrison Prizes, Medical Books, awarded to the Nurse obtaining the highest number of marks in the Examinations in Medicine and Nursing Subjects.

Nurse Evelyn A. Opie (Examination in Nursing).
Nurse Nancy M. Ryan (Examination in Medicine).

Bernard Loftus Brown Prizes

The Bernard Loftus Brown Prizes, presented by Mr. and Mrs. A. Loftus Brown in memory of their son, are awarded to the Nurses gaining the highest number of marks in each of the Final Practical Nursing Examinations held during the year.

March—Nurse Margaret H. Stephen.
November—Nurse Adele P. E. Andrews.

The Governors' Prizes

The Governors' Prizes, Medical Books, awarded to Probationers obtaining the highest number of marks in the two Junior Examinations held during the year.

August, 1927—Nurse Margaret Taylor.
February, 1928—Nurse Sylvia M. Cooke.

GUY'S HOSPITAL PAST AND PRESENT NURSES' LEAGUE, 1928

Result of Ballot for Members of Council for the Ensuing Year

Election of three Hon. Members of Council nominated by the Council—

Mrs. Walter Burns.
Mrs. Mollison.
Mrs. Phillip Turner.

Choral and Dramatic—
Sister Evelyn (Miss Gibbs) re-elected.
Nurse Zugg.

Needlework—
Sister O. P. Annexe (Miss Dreyer) re-elected.
Nurse Bullock.

Swimming—
Sister Kathleen (Miss Burton) re-elected.
Nurse V. Barnes.

Library—
Sister Agnes (Miss West) re-elected.
Nurse F. E. Walker.

Tennis—
Sister Bright Annexe (Miss W. Johnson) re-elected.
Nurse V. Johnson re-elected.

Debating—
Sister Dorothy (Miss Holland).
Nurse I. G. Barratt.

Photographic—
Sister Theatres (Miss Bricknell) re-elected.
Nurse Connelly.

Garden—
Sister Dora (Miss D. M. Smith) re-elected.
Staff Nurse M. L. Hall.

PHOTOGRAPHIC EXHIBITION, 1928

PRIZE LIST

Class B

1st Prize. "Sunset," Miss G. H. Fletcher (No. 4).
2nd „ "Boating on Suez Canal," Miss Betty Dixon (No. 9).
3rd „ "Patient at Sun Cure Hospital, Sussex," Miss L. G. Oldendorff (No. 53).

Highly Commended—
"Woodland Scene," Miss G. H. Fletcher (No. 5).
"The Three 'Bares,'" Miss Betty Dixon (No. 29)
"Views of Hermanus, South Africa," Miss Bertha Wood (No. 46).
"Hospital of St. Cross, Winchester," Miss L. G. Oldendorff (No. 46).
"Wells Cathedral," Miss L. G. Oldendorff (No. 58).
"Piona, Lake Como," Miss L. G. Oldendorff (No. 68).
"The Seven Sisters, Sussex," Miss Eva Spring (No. 72).

Class C

1st Prize. "Borghese Gardens, Rome," Miss H. G. Watkins (No. 12).
2nd „ "An Interior," Miss M. C. Stewart (No. 17).
3rd „ "Beachy Head from Eastbourne," Miss A. W. Waterman (No. 14).
4th Prize. "Autumn," Miss M. Barford (Figure Study 3).

Highly Commended—
"Plymouth Hoe, Evening," Miss E. M. Yates (No. 4).
"Summerton Village, Norfolk," Miss E. M. Yates (No. 5).
"The East Lyn," Miss J. D. Litten (No. 6).
"Dunster Castle," Miss H. G. Watkins (No. 13).

PRIZE LIST FOR EXHIBITION OF NEEDLEWORK

SECTION I

Class A—1

1st Prize. Miss Morelly (Chemise).
2nd „ Miss Bullock (Petticoat).

Highly Commended—
Miss Morelly (Nightgown).
Miss Butler (Petticoat).
Mrs. Blaze (Nightgown).

Class A—2

Highly Commended—
Miss Butler (Patch).

Class B—1

1st Prize. Miss Jillings (Nightgown).
2nd „ Miss New (Nightgwon).

Class B—4

1st Prize. Miss D. M. Smith (Picture).
2nd „ Miss E. N. Gibbs (Screen).
3rd „ Miss Stebbings (Embroidery).

Highly Commended—
Miss Butler (Cushion).
Miss M. Wilson (Cushion).
Miss Harries-Jones (Table Runner).

Class C—2

1st Prize. Miss L. Andrews (Crochet).

Class D

1st Prize. Miss Stewart (Dress).
2nd „ Miss Bullock (Dress).

Highly Commended—
Miss L. Cripps (Dress).

Class E

1st Prize. Miss M. B. Haynes (Handbag).
Miss Joyner (Handbag).
2nd „ Miss Edmonds (Blotter).
3rd „ Miss Litten (Applique Work).

Highly Commended—
Miss D. M. Smith (Cosy).
Miss Barford (Raffia Basket).

SECTION II

Class A—1

1st Prize. Mrs. Blaze (Nightgown).
2nd „ Miss Cross (Nightgown).

Class B—2

2nd Prize. Miss Litten (Hardanger).

Nurses Swimming

MUCH enthusiasm has already been shown this season among the nurses at the Swimming Baths in the Home.

There are many promising newcomers who, after a strenuous day in the wards, seem to find relaxation in doing some exercises in the water. Neither are they content to go in and swim about, but are really keen to improve their strokes and to get the right movements. The correct dive is occupying the attention of all at present ! We hope, later on in the summer, to have a really good gala, and during the season shall make a brave attempt to win back a few cups.

It says much for the present-day nurse that she can throw herself so heartily into recreations such as tennis and swimming. She will surely keep more fit and be a happier person altogether, and that, after all, will react on her patients. Judging by the many tennis racquets one sees being carried through the Park, this game is by no means neglected.

The "Surgical" Removal of an Apex.

A Communication to the Guy's Hospital Dental Society by R. Cutler, Esq., L.D.S.

ETHICAL dentistry demands the removal of any apex or root which may be left in the alveolus as a result of fracture of a tooth during extraction.

Dental hospitals having the necessary skiagraphic and surgical facilities endorse this view, partly because it is their duty to teach ethical dentistry, and also because the removal of such tooth apices affords scope for demonstrating orthodox operative technique and gives opportunity for the acquirement of the necessary surgical skill.

In private practice, however, ethics must to some extent be influenced by expediency, while in many cases the removal of tooth apices merely to satisfy the academic vanity of the operator is not only inexpedient but quite unjustifiable.

As the most careful operator must be faced with this problem sooner or later, a clear and well defined policy as to the correct procedure is essential.

The following two cases, then, illustrate rather aptly the positive indications and contra-indications for any such operative interference.

M—— S——, a girl, æt. 25, required an upper denture, left upper 1, 2, 3, 7 and 8 were present. On examination it was observed that 1, 2 and 3 had large synthetic fillings and did not respond to the usual thermal tests. An X-ray was then taken, and this showed the presence of gross apical infection in relation to these teeth ; moreover, the distal quarter of the canine root was inclined from the long axis at about 60 degrees.

Despite the most careful precautions during the extraction this curved portion fractured high up beyond the reach of forceps.

In this case the three cardinal indications for removal of the fragment were present, namely :—

(1) The presence of gross apical sepsis.
(2) Good surgical accessibility of the area containing the fragment.
(3) Impossibility of a natural extrusion.

The outer plate was then exposed through a gum flap and the fragment localised through a "window" in the bone ; the area was then curetted.

No stitches were inserted through the incision flap, and the wound had completely resolved within a week.

A man, æt. 40, required treatment for a chronic pyorrhetic condition. X-ray showed uniform alveolar absorption, with considerable compensatory sclerosis ; there was no apical sepsis and no marked anatomical deformities of the teeth.

It was decided to extract all the teeth, and, as in these conditions they tend to be hyper-calcified and therefore very brittle, great care was taken. Nevertheless, during the operation the distal fourth of the lower left 4 was fractured, and it was found impossible to remove it with any pair of forceps.

In this case any further operative interference was deemed inexpedient because :—

(1) There was no gross apical sepsis.
(2) The area is surgically unfavourable to expose.
(3) There was a considerable possibility of natural extrusion.

Three months later the patient was again examined with a view to the fitting of dentures, and the fractured apex was then seen presenting on the alveolar border so that it could be removed with a pair of tweezers.

(1) *Gross Apical Sepsis*—

If teeth are removed purely as a step in the eradication of apical sepsis every effort should be

made to remove the fractured distal fragments, as not only does the presence of a root prevent curetting of the infected area, but may itself keep up the focus of infection for the relief of which the original operation was undertaken. This positive indication must, however, always be considered in relation to the :—

(2) *Surgical Accessibility of the Area in which the Root Lies*—

Thus, in the upper jaw 1, 2, 3, 4 and 5 roots and the buccal roots of a bifid 4 or of a 6 are all favourably situated, while the palatine roots of a bifid 4 or of a 6, or all the roots of an 8, when separate, are usually difficult of access, and may be quite easily pushed up into the antrum if their removal is attempted.

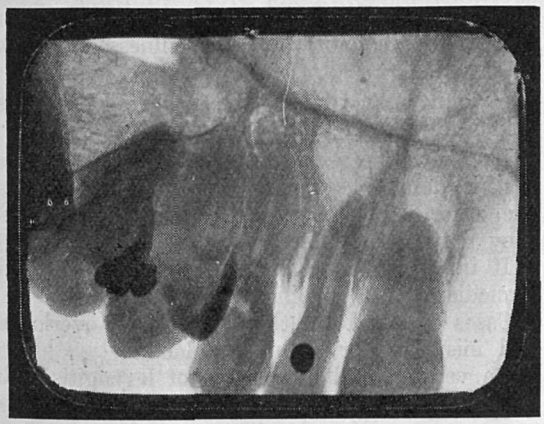
In the lower jaw, exposures for the removal of roots are usually troublesome, partly because the mucosa is reflected upwards at a higher level, so that more soft tissue must be cut through to localise the area, while post-operative sepsis is a frequent sequela, presumably due to the absence of gravitational drainage.

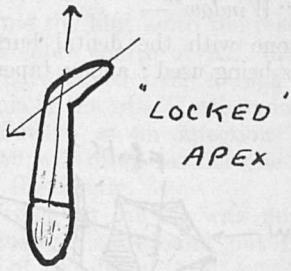
It is a good rule, then, to leave alone all fragments in the lower jaw which are insusceptible of removal via the socket.

(3) *Possibility of a Natural Extrusion*—

Before embarking on any extensive operative procedure the possibility of a natural extrusion should always be kept in mind, for it appears to be the rule rather than the exception for the vast majority of fractured apices, which are undeformed, to be extruded after a varying period of time.

When the root is deformed such a favourable termination is much less frequent and, in fact, the canine shown in the X-ray is a good example of a "locked apex."

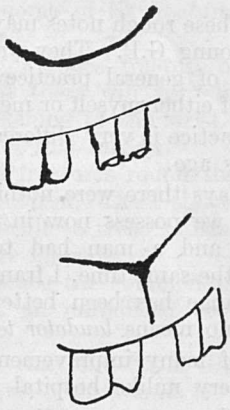




The operative and pre-operative procedures in these cases are, of course, well known. Nevertheless, the following details may be of interest :—

The Incision—

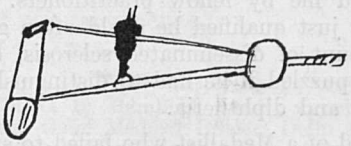
A crescentic incision with the concavity upward is usually employed, but a useful modification of this is a tri-radiate one, one limb of which is in the long axis of the root ; the bony ridge forming the wall of the socket is thus exposed and its direction gives a key to the localisation of the fragment.



THE NORMAL AND MODIFIED INCISIONS

The Localisation—

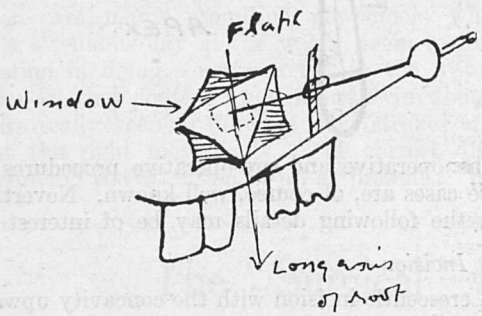
It is a good plan to mark off the distance between the cemento-enamel junction and fractured end of the tooth on a pair of screw callipers, and these can then be sterilised with the other instruments. When the area has been exposed one calliper point is placed on the margin of the socket so that the other point gives an absolute localisation where it crosses the long axis of the root.



LOCALISATION BY CALLIPERS

Cutting the "Window"—

Is best done with the dental burr if a local anæsthetic is being used ; a long, tapered, medium cross-cut fissure drill in the straight handpiece is best for this work. Coarsely cut "surgical" drills are available, but although these do not clog so easily the cutting vibration set up is most distressing to the patient, while the teeth tend to get caught in the flap reflections.



CUTTING THE WINDOW

One school of thought exploits the view that the removal of all deformed teeth should be carried out "surgically," but—as Dowsett has pointed out—any operation performed aseptically and with properly designed instruments can very properly be termed "surgical," so that orthodox extraction with forceps is equally deserving of this title, and should, in fact, be the method adopted in all but the most exceptional cases.

Some Common Pitfalls in General Practice.

I TRUST these rough notes may be of some use to the young G.P. They are the results of 35 years of general practice and the actual experiences of either myself or men I have known.

General practice is very different from what it was 30 years ago.

In those days there were nothing like the aids to diagnosis we possess now in clinical research laboratories, and a man had to rely more on himself. At the same time, I frankly acknowledge that the change has been better on the whole, and am by no means *laudator temporis acti.*

In spite of many improvements general must always be very unlike hospital practice.

The methods one can use to treat many patients, especially in a working class district, are often very primitive, and lack of means, knowledge and accommodation have all to be taken into account.

The district nurse is often an angel in the house, but as a rule she cannot remain long with the patient.

I remember Dr. Pye Smith saying there were three diseases one should always bear in mind—phthisis, syphilis and scabies. I propose to discuss cases where mistakes are serious and sometimes fatal. Some I have made myself, others have been told me by fellow practitioners. When a man has just qualified he could often give you a full account of disseminated sclerosis, but might be very puzzled if he had to distinguish between tonsilitis and diphtheria.

I heard of a Medallist who failed to spot a case of measles.

Diphtheria—

As M.O. to the local hospital a large number of cases have lately come under my care.

The initial symptoms are often very insidious, and the parents as well as the doctor are apt to be caught napping.

Always carry a pocket torch and make it a golden rule to examine every throat.

I have recently had several cases to illustrate what I mean.

A child was sent to her grandmothers as she was not very well. On her return her parents, who were devoted to her and by no means careless, sent for me, thinking she had a cold. I found very extensive membrane covering both tonsils and spreading well on to the soft palate.

A child was brought to the hospital, but was dead on arrival. She had been operated on a fortnight previously for tonsils and adenoids, and the parents thought the child's illness due to the operation.

A young man who had been treated for quinsy died immediately after admission.

I offer these cases as warnings. Diphtheria at first is dangerous rather than painful. Quinsy the other way round, but, as in the last case, they may co-exist.

If in doubt take a swab, but give antitoxin immediately.

Cases of nasal diphtheria are often overlooked and mistaken for ordinary colds.

Be very careful over cases of laryngitis. Rig up a steam tent at once ; you can always do this

with the aid of a clothes horse. Give antitoxin unless there is rapid improvement.

I find an emulsion of ordinary paraffin, m. v, every hour often acts like magic and saves a tracheotomy.

Scarlet Fever—

This is a great worry. Parents do not easily forgive a mistake.

If in doubt call in the M.O.H. We have a good many cases of rubella sent into the hospital.

After the first 24 hours it is often impossible to say which the disease is, but at the commencement it is quite easy. Keep all cases in bed at least three weeks, no matter how mild. I have seen desquamation delayed for over a fortnight.

Nasal discharges after scarlet fever are highly infectious, and a child often develops a cold after the final hot bath and disinfection.

Small Pox—

I have twice known the severe lumbar pain of small pox mistaken for lumbago and the hæmorrhagic rash for purpura, with disastrous consequences, as they started epidemics.

Measles—

It is most difficult to get parents to regard this disease seriously.

Insist on at least a week in bed for every case, no matter how mild. Do not be in too much of a hurry to push milk into a child with measles; they do very well without it for a day or two and much prefer water and orange juice.

Acute Rheumatism—

There is no doubt many cases are overlooked, with disastrous consequences. Tonsillitis may be the first and only symptom.

Be on your guard if tonsillitis answers immediately to salicylate of sodium.

Tuberculosis—

Loss of weight and easy fatigue are often the first symptoms.

Do not be led away by a fine physique or a good family history or unduly depressed by the contrary. In my opinion the curability of phthisis is in the inverse ratio to the healthiness of the previous surroundings.

Be very chary of your prognosis in all cases of chronic otorrhœa.

Let one of your first purchases be a good electrical otoscope.

Beware of all head injuries. I have seen a simple pustule of the eyebrow followed by infection of the diploe and extensive necrosis.

Vertigo is a very common symptom in the middle aged. Always take the B.P., examine the urine, and order complete rest.

Never forget syphilis. A woman of ultra respectable appearance came to me one day with an ulcer of the arm, which had been treated with different ointments. The circular shape of the ulcer gave me the hint as to the real facts of the case, and a short course of K.I. did the rest.

Do not be alarmed over a high temperature in pneumonia if the case is otherwise doing well.

Treat influenza as an infectious disease and isolate. You will often restrict the disease from the rest of the family.

Never syringe an ear for wax until you have used an otoscope and found out if there is a perforation of the drum.

Stop syringing at once if it causes pain.

Wounds of the hands are extremely common. Always use splints and be sure the patient comes to see you frequently.

Fractured metatarsals are often overlooked, and unless properly treated are a source of great trouble. Pad up the sole of the foot well so as to maintain the concavity of the bones.

I have seen several dislocated shoulders overlooked from not having an X-ray examination made.

Make a careful rectal examination in every case of piles. Carcinoma of the rectum is very easy to overlook.

When treating a Colles' fracture be sure to warn the patient that there will very likely be some permanent thickening of the wrist. Women are very sensitive on this subject.

Beware of all fractures round the elbow joint, especially in children. A T-shaped fracture is particularly difficult to treat satisfactorily.

A final note *re* midwifery.

In my experience the commonest cause of delayed labour is an unreduced occipito-posterior position.

According to the text books this is easy to spot, but I have often found it very difficult, especially in stout women.

Give an anæsthetic if in doubt. I have been called in several times after forceps had been applied and much force used, and on turning the head the patient has been delivered without the slightest difficulty. Always suspect an unreduced occipito-posterior position if you have difficulty in putting on forceps, and if they show a tendency to slip after being applied.

I am afraid these notes may appear almost childish to the old hand, but they are the results of actual experience, and may help the young practitioner to avoid some of the numerous pitfalls of general practice.

S. G. F.

Appointment.

Lieut.-Col. C. H. Reinhold, I.M.S., appointed Civil Surgeon and Chief Medical Officer, Delhi Province.

Papers by Guy's Men

F. N. Doubleday, L.D.S., M.R.C.S., L.R.C.P. Bacterial Infection: The Seed and the Soil, *Brit. Dent. Jour.*, 1928, xlix, 468.

Sport.

Swimming Club.

THIS year the Swimming Club is looking forward to another successful season—if anything, even more successful than that of last year, when, I believe I am right in saying, our record was better than at any time since the end of the war, at which time the club was inaugurated. At any rate, the team was referred to in the *Evening Standard* as the best ever produced by any hospital, a tribute of which we were justly proud, and one which needs a lot of living up to. Last season we won the Water Polo Final against U.C.H. by 8 goals to 1, and in the swimming we had first and second in every race and won the Team Race, but we lost the Diving. The Polo and Swimming Cups we have held every year from the beginning, but it is many moons since we obtained the Diving Cup.

We have lost two men since last season—S. E. Theis is qualified and in Africa, and D. P. King has gone up to Cambridge, where he will probably appear against us for a year or two. Though it does not seem as if there is much room for new talent, some new men are badly needed, especially for swimming and diving. There are places to be filled for the 50 Yards, Quarter Mile and Team Race.

The difficulty we encounter at polo is that we have no well-trained reserves to fall back on. If any member of the team is unable to turn out, we have to play a man who, however enthusiastic he may be, lacks experience of any sort of the game. For many years it has been the ambition of the captain to arrange games for an "A" team, but these have always fallen through owing to lack of enthusiasm on the part of those who, at the beginning of the season, professed to be so keen. This year we shall again make the attempt to get these "A" matches under way, and hope some keen newcomers will arrive to make it successful. People when they first come to the Hospital seem so diffident about their powers. If only those who are interested would put down their names on the sheet which goes up on the Notice Board at the beginning of every season it would ease considerably the task of the secretary and committee.

As regards diving, it would be a really good effort to wrest the Cup from London this year. The one and only diver of any merit who has shown up in the last five years is R. N. C. Smith. Surely some of the people who have dived at school come to Guy's. They cannot all go to London! *Do not* hide your light under a bushel. If anybody thinks he can dive, swim or play polo let him get into touch with one of the officials of the club, and he will be given a decent trial. In addition, we hope to have Howcroft, the coach, down on one day a week, and he will give any enthusiasts a great deal of help.

Sir Alfred Fripp, our President, has again secured the Bath Club for the Inter-Hospitals' Gala, which will take place on July 3rd. We hope that both Staff and students will be strongly represented.

Our last point is that some cheap humorist has been tampering with a notice on our board. We should like to point out that this sort of thing is not encouraged at this Hospital.

Rowing Club.

ON Wednesday, May 23rd, the Inter-Hospital Races will be rowed at Putney. There are two Challenge Cups, one for light eights, which Guy's has held now for some years, and one for Junior Fours, which we last year lost to Bart.'s. This year, for the first time since the War, there are three eights in for the Senior Cup—St. Bart.'s, St. Thomas's and ourselves. It is hoped that if possible all these will put on Junior fours, with, perhaps, the addition of St. Mary's and the London.

In other words, this year will have to mean a real effort if we are to keep the Senior Cup and regain the Junior. We therefore appeal to as many as can to come down to Putney on the 23rd and support the Hospital.

The first race (eights) will be at 3 p.m. and the fours immediately afterwards. The course for the former is from University Stone—just above Putney Bridge—to Hammersmith; for the fours from the Stone to the Mile Post. After tea there may be a race for light coxwainless fours, if enough enter. There is no challenge cup though.

The Hospital is rowing St. Paul's School over a course slightly over a mile on Saturday, May 19th.

Notice.

THE FOLLOWING AWARDS HAVE BEEN MADE

Third Year's Prize in Dental Subjects
Prize—Mr. D. S. Clogg.

Prize for Operative Dental Surgery
Prize { D. B. Bergh.
W. J. Watson.
Certificates { C. A. W. Archer.
C. S. Henderson.

Change of Address.

R. M. Lloyd Still, Napsbury Mental Hospital, St. Albans, Herts.

C. H. Rheinhold, 33, Rajgur Road, Delhi.

Birth.

PARSONS—On May 6th, 1928, at 11, The Circus, Bath, to Dorothy, wife of Dudley A. Parsons, L.D.S., R.C.S.Eng.—the gift of a son.

EDS. { O. P.
E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLII. *June 2nd, 1928.* *Number 1040*

PASSIM

THE Editorial mind has been rejoiced at a time when it most needed enlightenment. We have received from Calcutta an advertisement of what appears to be the most miraculous talisman of modern times. The art of advertisement is not entirely unknown in this country, but we could profitably pick up a few hints from the proprietors of Sawavijaya Kavacha, the "world renowned Talisman," which was "invented" in 1910. The publication sent to us contains a number of testimonials from users of the talisman, which appears to be omnipotent and unfailing in the good fortune it brings.

According to the advertisement, it may be used with equal success for obtaining Governmental honours, success in horse racing and lotteries, or relief from chronic disease. Money, good luck and babies arrive with equal profusion to those who want them. To quote the words of the laudatory pamphlet: "It destroys all dangers and difficulties, eradicates all sorts of poisons and bestows victory at all times; it is the great giver of wealth and good graces . . . it prevents untimely death and early decrepitude." Again, by its more strictly medical application, "it prevents all poisons, whether due to infection diseases, bad water and atmosphere or any other causes, from entering into the body. If any poison by some means or other enters the body, by its use it will soon be driven out with excreta and urine."

Obviously, a most useful and accommodating therapeutic agent. In addition, it is guaranteed to "secure handsome, beautiful and suspicionless wife."

We have not space to quote from all the numerous testimonials, but some, we feel, should not go unacknowledged.

One man writes: "I was suffering from Fits every 15 days before January, 1920. Since the use of your 'Kavacha' sent to me in January, 1920, I am *not* suffering from Fits for the last 3 months. I greatly admire your Talisman. Also I got an appointment in the Chittoor Collectorate."

Again, "Your wonderful Talisman has completely cured my son from all diseases and he looks now in colour like lotus flower and strength like Bheema." Who would not look like a lotus flower if he could?

This one sounds a little ambiguous: "I derived much benefit from your Talisman, which cured insanity of my wife, who was suffering from it for the last 15 years. Send another."

Here is another particularly naive one: "I have been suffering for the last 18 months with a Dialcoated (*sic*) heart and reduced in weight nearly two stones and now by the use of your Talisman, I find a great improvement in my heart."

The business aspect is not neglected: "I do not find adequate words to express the wonderful effect of your renowned Talisman. On using it for one month only I have been promoted to the rank of manager."

Apparently it is a powerful two-edged weapon, as one man writes: ". . . by its miraculous power my enemies have been made to suffer bitterly for the evil intention they entertained of me."

Those up for Conjoint next time should be especially interested to know that the Talisman rarely fails to get its owner through any examinations, and all for the low cost of one rupee four annas, or, in a gold cover, five rupees. The "inventor" of this wonderful charm, while doubtless keeping the welfare of others uppermost in his mind, has not ignored the aspect profitable to himself. He has discovered a charm which wears out, and which therefore must be replaced at intervals if the beneficial effects are to be main-

tained. Furthermore, the talisman cannot be passed on from one user to another; to every man his own talisman. On the back of the pamphlet sent to us is printed, apparently in innocent self-approbation on the part of the proprietor, an ironic description of the magic of the talisman by the *British Medical Journal*. We feel that the claim should be taken more seriously. Surely great use could be made of such a potent form of treatment at Medical Out-Patients. We can see all the old ladies coming up month by month and asking not for "another bottle of the white medicine, please doctor," but for "another amulet, please; I haven't vomited nothing since the last one, and the pains is all gone." The therapeutic action of the charm, we cannot help thinking, would bear exactly the same relation to the resulting cure as the more conventional bottle of medicine does. The Dispensary would certainly welcome the change with open arms; the making up of prescriptions would be reduced to the utmost simplicity, the most complicated prescription being limited to a combination of two or three amulets. Then how nice it would be to be able to say to the patient who professes himself no better: "Well, I'm sorry, but the fates are against you. Try another amulet." So all responsibility could be disclaimed and the entire blame placed upon the shoulders of the Fates, which are surely broad enough to bear it. There are infinite possibilities, and we strongly urge that a commission should be set up to inquire into the present position of talisman treatment in modern therapeutics, and the lines along which this treatment might be expanded.

▭

In H. Noguchi yellow fever claims yet another distinguished victim from the front rank of those engaged in its investigation. It would seem that the tragedy at Accra was in many respects similar to that at Lagos, and to be attributed to the marked ability of this disease to attack those new to an infected area more severely than the native inhabitants. Pathology and bacteriology thus suffer a joint loss, and medical science a temporary setback in one of the sternest fights it has ever known.

▭

The Athletic Sports, of which a full report will be included in our next issue, were held this year in brilliant weather, perhaps a drawback in a way for it probably robbed the occasion of much of the support it undoubtedly deserved, many people quite naturally wanting to get away from town for the holiday week-end. An excellent exhibition was given in the field events, and competitors put up some good times for the sprint and longer distances, though the quarter mile and high jump were rather disappointing. The closing relay provided a spectacular finish, which the Medicals won by inches only. The Club were fortunate in having Mrs. J. M. H. Campbell to present the medals and prizes, a delicate task when the success of one competitor in three distinct events in each case gained the award of a walking stick.

We would remind readers that the Inter-Hospital Sports are being held at Stamford Bridge on Thursday, June 14th.

▭

We extend a hearty welcome to Dr. Douthwaite on his appointment as Assistant Physician. For private reasons we have been unable to publish the news of his appointment earlier, though it has been common property here for some time. On Friday, May 25th, he gave his first Clinical Lecture, and chose for his subject "Intra-thoracic Tumours." We understand that Dr. Douthwaite will not be taking up his full duties here just yet. When he does so the physicians will be grouped as follows: Dr. French and Dr. Marshall; Dr. Hurst and Dr. Ryle; Dr. Poulton, Dr. Campbell and Dr. Douthwaite; Dr. Mutch and Dr. Conybeare.

▭

We should like to congratulate Dr. Marshall on being elected to a Fellowship of the Royal College of Physicians.

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On Monday, May 21st, Sir William Hale-White delivered a lecture on "William Harvey, Physician and Physiologist." Although Harvey had no connection with Guy's—he died in 1657, or 68 years before the foundation of the Hospital—his work was so immense and far-reaching that medicine as it is to-day and as practised at Guy's would be beyond the realm of contemplation without it. His work, as Dr. Charles Singer, the well-known medical historian, says in his latest book, "lies at the back of almost every important medical advance." To the medical student of to-day any conception of physiology without circulation of the blood is impossible to grasp. And yet between the sixth century B.C., when Greek medicine first assumed anything like scientific shape, and the beginning of the seventeenth century, when Harvey's discovery stirred the world, medicine was being practised by men who had no thought of the existence of a circulatory system. So the subject of Sir William Hale-White's address was no mean one, and he impressed upon his audience the reminder that stupendous revolutions like Harvey's do not blaze up suddenly and unexpectedly, but that they are the result of years of hard and conscientious labour and their results are only

accepted after further years of violent criticism and contention.

SIR ROWLAND BLADES presided at the 33rd Annual Meeting of the Guy's Hospital Ladies' Association, which was held in the Court Room on Thursday afternoon, May 17th. About 250 members and their friends attended.

During the year the Association has contributed £2,743 to the funds of the Hospital and over 2,000 garments for the use of patients in the wards. New members are urgently needed to carry on and extend the work of the Association. All particulars will be given by the Hon. Secretary, Guy's Hospital Ladies' Association, 10, Devonshire Place, W.1.

Obituary.

Miss M. E. JAMESON.

MISS M. E. JAMESON, who died suddenly at Buenos Aires on May 10th, trained at Guy's from 1919–1922. Later she became Assistant Home Sister and Sister of Job and Lydia Wards, which posts she held for over four years. She left the Hospital last year to join the nursing staff of the *Franconia*, a liner on a six months' world tour. She contracted pneumonia, and her death came as a great shock to her many friends at Guy's.

No one who came in contact with Miss Jameson could help being influenced by her great enthusiasm for life and for her work. Her joyous spirit was the greatest asset to her and made her beloved by patients and nurses alike. Always ready to go out of her way to help others and with her great gift of understanding, she made many friends both among her colleagues and among the medical staff of the Hospital.

For two years she acted as Secretary for the Nurses' Swimming Club, and although she was not an expert swimmer herself, she inspired the nurses to great efforts by her interest and zeal.

Hydatid Disease.

A Clinical Lecture by R. Davies-Colley, Esq., C.M.G., M.Ch.

GENTLEMEN,—I have chosen this somewhat rare disease as the subject of my lecture to-day partly because I have recently operated upon a case of it in the hospital, and also partly because, in spite of its rarity, it possesses a quality which, to judge from the examination papers of the last year or two, seems rather to capture the imagination of your examiners.

During the years 1911–20 there were admitted to this hospital 17 cases of hydatid disease. My own experience has been limited to four cases, so that it is clear that in the practice of any one doctor in this country the disease is likely to be met with only very occasionally. On the other hand, in some parts of the world, of which Australia, Iceland and parts of South America are examples, it is so common that one might almost say of them that a patient presenting himself with an obscure tumour in any part of the body is automatically labelled "hydatid" until clear proof is obtained to the contrary.

Let me first say a few words about the life history of the parasite. The tænia ecchinococcus in its adult worm stage inhabits the intestines, particularly the duodenum, of the canine family, especially of domestic dogs. It is the smallest of the tape worms, measuring only 4 to 7 millimetres in length. It consists of a head, by which it clings to the mucous membrane, and three body segments, in the terminal of which the ova are formed. This segment in the course of time breaks away from the rest and, being voided in the fæces, contaminates water and vegetables, with which it is taken into the alimentary canals of cattle, sheep, pigs, etc., and, more occasionally, of man. On reaching the stomach of the new host the envelope containing the ova is digested by the gastric juice, and the ova thus set free pass into the intestine, where they attach themselves to the mucous membrane and, burrowing through it, reach the portal circulation, and are carried to the liver. Here some 70 to 80 per cent. end their journey and begin at once to develop into the cysticercus stage, or hydatid cyst. A few, however, pass on to the systemic circulation, by which they may be carried to any part of the body, and if you

look through the specimens on the shelves of the Museum you will see that no organ is exempt from their invasion.

A hydatid cyst has a wall composed of two layers —an outer laminated, elastic layer and an inner gelatinous or parenchymatous layer. The cavity of the cyst is filled with clear fluid of low specific gravity containing various substances, of which the principal are sodium chloride and a trace of albumen. On the inner layer of the membrane after about two months' development a number of small nodules, little larger than a pin's head, are seen projecting into the cyst. These are the brood capsules, and each of them consists of a tiny cystic cavity surrounded by two layers of membrane as in the parent cyst, but with this difference—that the two layers are reversed, the parenchymatous layer being external and the elastic layer internal. On the outer layer of the brood capsule a number of hooklet-bearing scolices presently form, which remain quiescent until the organ in which the cyst lies is eaten by a dog, when they attach themselves to its intestinal mucous membrane and soon grow into adult tape worms. This is the normal life history of the tænia ecchinococcus, and is the series of events which takes place when the cysticercus stage is passed into the animals which usually form the intermediate hosts.

In man, and very occasionally in animals, another phenomenon is seen, the formation of daughter cysts. It is not quite clear why this should be the case. Dew, who has done much work on the subject in Australia, holds that it is a sign that the cyst is meeting with conditions which are not favourable to its natural development. He has shown that daughter cyst formation occurs in inverse proportion to the formation of brood capsules, that a cyst which contains numerous brood capsules does not form daughter cysts, and, conversely, in cases where few, or no, brood capsules are formed daughter cysts are numerous. He has also shown that when a hydatid contains daughter cysts there is always evidence of injury to the parent cyst, either a breach in its wall or a leakage of bile into its cavity. It is known that the entrance of bile into the cyst destroys its property of brood capsule formation, and it is inferred that the loss of brood capsule formation leads to the production of daughter cysts. Dew therefore regards the formation of daughter cysts as a protective mechanism, by which an alternative means of providing successors is called into action when the normal method of reproduction fails.

Daughter cyst formation is the rule in man, but there are exceptions; in the lung hydatids are generally simple, and in young children, no matter in what part of the body they occur, they rarely contain daughters. The absence of daughter cysts in children suggests that the time factor is of some importance, for it is obvious that the longer a cyst exists and the larger it grows the greater must be its liability to injury from trauma or contamination by bile. Domestic animals may be classed with children in this respect because they nearly all end their days in the slaughter house within the first few years of their life.

The rarity of daughter cysts in hydatids of the lung may be explained by the fact that lung cysts usually open a bronchus before they reach a large size, and either get coughed up or become so infected that the cyst wall dies.

Another phenomenon which is peculiar—at any rate in its marked development—to man is the formation of a thick pseudo-cyst or fibrous capsule around the hydatid as a result of inflammatory reaction in the tissues of the host. In long-standing cases this fibrous capsule may become extremely tough, and even calcareous, and it is possible that by depriving the cyst of its nourishment it may produce the adverse conditions which lead to the production of daughter cysts. It unquestionably tends to cause necrosis of the cyst contents and renders them liable to suppuration.

When hydatids occur in bones the usual arrangement of a colony of daughter cysts contained within a mother cyst is lost, and though daughter cysts are formed in large numbers they are generally found scatterted about both within and outside the bone without a limiting capsule. This is probably because owing to the rigid structure and unequal expansion of the bone which surrounds it the parent cyst ruptures early and its contents escape into the tissues while it is still quite small. Multiple deposits of hydatids are sometimes found in other parts of the body, particularly in the peritoneal cavity, and it is probable that these, too, are always the result of rupture of the parent cyst wall.

While I am dealing with this point I ought perhaps to mention that in some parts of Central Europe a type of hydatid infection occurs which from the first takes the form of an unencapsuled conglomerate mass of almost microscopical cysts embedded in a gelatinous matrix. It is known as the alveolar variety, as distinct from the hydatidose, and it is thought to be the result of infection by a different species of ecchinococcus. Although there is some doubt as to whether it can be separated from the common form, the fact that it has a very definite geographical distribution and that the same form is found in the cattle in these places lends support to the view that it is a distinct species.

Symptoms and Diagnosis—

The symptoms of a hydatid cyst in its early stages are characterised mainly by their absence. No uninvited guest is more readily tolerated than a young hydatid cyst, and it is remarkable, in the case of an actively growing cyst, how little reaction is produced in the tissues of the host. I have already mentioned the liability of lung cysts to rupture at an early date into a bronchus; apart from these and a few others occurring in situations like the brain, where quite a small cyst may cause symptoms by pressing on some vital spot, it is only when, after many years, the cyst has reached a great size or become complicated by rupture, infection, etc., that it is likely to be noticed. Thus, in the two liver cases upon whom I have operated gradual enlargement of the abdomen had been noticed for more than 10 years before it became sufficiently inconvenient for the patient to seek medical advice. In the case of the man now in Clinical Ward, pain in the back was a prominent symptom during the last few months, probably from pressure on the solar plexus.

Pressure symptoms will, of course, be subject to almost infinite variety according to the position of the cyst, and it would be waste of time if I were to attempt to describe them in detail. I would, however, like to draw your attention to some specimens in the Museum of hydatids, which, escaping from a cyst in the liver, have fallen into the pouch of Douglas, and developing there have caused obstruction at the neck of the bladder.

Expectoration of the contents of a cyst which has ruptured into a bronchus, or their passage per rectum or through a cutaneous sinus are events which will at once point conclusively to the nature of their source, but such helpful symptoms are seldom seen.

Leakage of the hydatid fluid, especially into the peritoneal cavity, sometimes gives rise to attacks of urticaria, and recurrent attacks of this nature in association with an abdominal tumour are very suggestive.

Infection and suppuration of a cyst is not uncommon, but no special symptom other than the formation of an unexplained abscess is likely to arise in this way.

The symptoms then, except in comparatively few cases, will be those of a slowly growing painless tumour with a smooth rounded outline. If it is near enough to the surface for its cystic nature to be detected, and growing in a position in which other cysts are not to be expected, especially in a country where hydatids are known to be common, the diagnosis is generally easy, but with a deep-seated cyst, or one whose walls have become thick or calcareous, the diagnosis with exploration may be impossible.

Much has been made of the distinctive thrill obtained by percussion over a hydatid, but this can only be due to a certain degree of tenseness and thickness of its wall, both of which can be reproduced exactly by an equally tense ovarian cyst, and it is not a sign upon which any real reliance should be placed.

X-rays are of value in demonstrating exactly the position of a cyst, and in the lung perhaps the globular shape and peculiar density of the shadow is seldom imitated by other conditions. Elsewhere they are not of great diagnostic use.

A rise in the number of eosinophil cells in the blood is important. Hydatid cases usually show an eosinophilia of from 10 to 20 per cent., but an absence of eosinophilia does not prove that no hydatid is present. The eosinophil count is of more importance in showing the effect of treatment, for in a case in which eosinophilia was known to be present before operation, if after operation the number of eosinophil cells drops to normal, it may be taken as proof that the cyst has been completely evacuated and that no others are present.

Finally, there are three serological tests which possess considerable value, though there are limitations to their use.

The complement fixation test is based on the same principles as the Wassermann test in syphilis. It is the most reliable of the three, and in adults suffering from hydatid disease some 75 per cent. are said to give a positive result. In childhood only about 20 per cent. positive results are obtained, so that in young subjects it is relatively useless. The success of the test depends very largely upon the condition of the hydatid. If there is a thick fibrous capsule a negative result is probable; on the other hand, a positive result is likely if the cyst has recently ruptured or is suppurating. It is important that the hydatid fluid used for the test be obtained from a healthy cyst—if it is contaminated with bile the test is almost certain to fail.

In the precipitin test the patient's serum is mixed with fresh hydatid fluid and warmed to 37° C., and a positive result is shown by the formation of a precipitate. It is not nearly so certain as the complement fixation test.

In the third, or skin test, a few drops of hydatid fluid are injected subcutaneously, and if the patient has hydatid infection there is usually an immediate cutaneous re-action in the form of a large wheal at the site of the injection, followed later by a brawny swelling which may last for several days. It is said to be successful in more than 50 per cent. of cases.

Exploratory puncture of a suspected hydatid cyst is strongly to be deprecated. It is a dangerous

proceeding because, if the cyst happens to be infected, it will tend to spread the infection, and in any case daughter cysts may be extruded through the hole left by the puncture and reach other parts of the body.

Treatment—

At present, surgical operation is the only treatment which is known to cure patients of hydatid disease.

Obviously, the ideal operation is the complete excision of the cyst and its capsule, and wherever this is possible it is the method of choice. It is, however, rarely possible because the vast majority of hydatids occur in organs in which any attempt at excision would be a most dangerous proceeding. Short of excision the most satisfactory method of treatment is to open the cyst and evacuate its contents and the cyst wall as completely as possible, leaving the fibrous pseudo-cyst untouched. The question of drainage of the cavity will depend upon the condition found at the operation. If the cyst is a simple one, containing no daughter cysts, and is uninfected it is usually safe to close the cavity. By so doing the tedium of a long convalescence with a discharging sinus is avoided. If, on the other hand, there are daughter cysts it is risky to attempt closure of the wound, because it is almost impossible to be sure of removing all the minute cysts at the operation, and if any have been left behind they will either go on growing where they are or perhaps escape to form secondary implantations elsewhere. Marsupialisation and drainage must, therefore, be the rule in all but exceptional cases, and although the resulting sinus may persist for many weeks, or even months, it will generally heal in the course of time. I need not discuss in detail the steps of the operation, which must of necessity vary greatly in the different positions in which hydatids are found, but I would remind you that in dealing with an abdominal hydatid it is of the utmost importance to prevent as far as possible by carefully packing off the peritoneal cavity the escape of the contents of the cyst into it.

Some surgeons recommend the injection of formalin into the cyst before operation in the hope that by this means the lining membrane and the daughter cysts may be killed, and thus the risk of spilling live cysts into the peritoneal cavity eliminated.

There is no unanimity on this point, and it would seem hardly likely that a small quantity of formalin injected some days before operation could circulate freely enough among the closely packed cysts to bring about the death of more than very few of them.

The Role of Infection in the Ætiology of Bright's Disease.

Treasurer's Prize Essay by G. W. Rake, Esq.

INTRODUCTION

IN approaching a consideration of this subject it is necessary, in the first place, to consider what is meant by the term "Bright's Disease," nd then, having determined the numerous affections of the kidneys which come under this definition, to review, in the case of each, the accepted ætiology and the part played in this ætiology by Infection.

A DEFINITION OF BRIGHT'S DISEASE

Bright himself, in first introducing his observations to the medical profession,[1] described "evidences of organic changes which occasionally present themselves in the structure of the kidney . . . connected with the secretion of albuminous urine" in cases of "diseases terminating in dropsical effusion."

Later, in 1843,[2] he published "the record of the first experiment . . . made in this country to turn the ample resources of an hospital to the investigation of a particular disease," this being the record of 37 selected cases treated in the clinical wards of Guy's from May to October, 1842. In all of these cases albuminuria was a prominent symptom, and dropsy had been present at some period of the disease.

In 1836,[3] however, in his observations on cases of the disease afterwards to be known by his name, he admits that anasarca may be entirely absent.

Aschoff,[4] in speaking at the Bright Centenary, referred to Bright's syndrome, which he described as "renal symptoms associated with dropsy and albuminuria"; and, finally, Ryle,[5] writing in the *Guy's Reports*, contributes a paper entitled "Chronic Bright's Disease Without Albuminuria."

These few examples will suffice to make it apparent that there exists no clear idea in the minds of the majority as to what precisely is meant by the term Bright's Disease.

While realising that the following definition is but little, if any, more satisfactory than many former ones, yet, for the purposes of this paper and in order to set some limit to its scope, it is proposed to define Bright's Disease as a "non-suppurative inflammation of the kidney, often accompanied by albuminuria and dropsy."

A CLASSIFICATION OF THE VARIOUS TYPES OF BRIGHT'S DISEASE

Considering now the disorders which may be included in this paper, one is faced with a new problem, that of satisfactorily classifying them into their various types. In order to do this, resource has been had to the modern classification suggested by Volhard[6] and expanded by Elwyn.[7] In order to understand this classification it is necessary to discard some of the former ideas concerning the pathological picture of the kidneys, especially in the case of the chronic stage of the disease.

For example, the term Chronic Interstitial Nephritis was formerly used freely in connection with the pathological scarred kidney, because the change seen under the microscope was essentially one of interstitial fibrosis and lymphocytic infiltration. But it is now understood that this fibrosis is secondary to destruction of the glomeruli and tubules, not a primary process as inferred by the old term, and is, in fact, a replacement fibrosis. True interstitial nephritis, although it does occur (see below) is a rare disease. Exception must also be taken to such vague terms as parenchymatous nephritis, granular or contracted kidney. These have no real value from either a clinical or pathological standpoint, and by their very vagueness produce laxity of thought and a muddled nomenclature in a disease already sufficiently confusing.

Discarding these terms, therefore, as unscientific and as witnessing only the end results, one may proceed to give, with as little detail as possible, Volhard's classification of Bright's Disease.

A—AFFECTIONS OF THE GLOMERULI

These may be accompanied either primarily or as a secondary result by affection of the tubules, but the glomerular damage is the most important feature. They may be subdivided into :—

(1) Focal type ;
(2) Diffuse type or glomerulo-tubular.

The *focal* type is generally not associated with tubular damage. It may be further subdivided into :—

(*a*) Embolic ;
(*b*) Non-embolic.

The *diffuse* type presents many clinical pictures in passing through acute, subacute and chronic stages, but all are merely phases of the same disease.

B—AFFECTIONS OF THE TUBULES

Tubular nephritis or nephrosis. The latter term is adopted on the suggestion of Müller[8] as expressing the fact that one is dealing rather with a degenerative process than with an inflammation. This group may be divided into :—

(1) *Pregnancy Kidney.*
(2) *Lipoid Nephrosis*—

Under this heading come all the cases referred to formerly as tubular nephritis. The term here used has been adopted in order to give expression to what is a constant feature in these cases, namely an excess of lipoids in the urine and in the cells of the tubules.

(3) *Amyloid Kidney.*
(4) *Bichloride Kidney* or "Necrotizing Nephrosis."

C—AFFECTIONS OF THE INTERSTITIAL TISSUE

True interstitial nephritis, an acute process occasionally complicating certain fevers, especially diphtheria.

D—AFFECTIONS OF THE VESSELS

Arterio-sclerotic kidney. This group includes most of the cases formerly known as chronic interstitial nephritis.

E—AFFECTIONS SECONDARY TO DISEASE OF THE URINARY TRACT

It seems only correct to add this group of ascending non-suppurative nephritis. A survey of autopsy records leaves one in complete agreement with Thompson,[9] who points out that many cases of ascending nephritis are indistinguishable from others of that large class of "chronic interstitial nephritis" due to arterial disease of the kidneys.

Much space has been given to the discussion of the meaning of Bright's Disease, and to the classification of the several affections which, it is thought, should come within the scope of this paper. As will, however, be made clear, some such detailed account was essential in order to study in any way the ætiology of the disease, since in most cases there exists a different and distinct set of ætiological factors for each type.

It must be pointed out, before proceeding further, that the disease as it is generally seen does not follow the clear-cut definitions of the above classification. It is more usual for a combined glomerular and tubular affection to occur than for either the one or the other to be found in a pure state—at all events, by the time the case becomes available for careful either clinical or pathological examination. In spite of this fact, it seems best to maintain the clear-cut groups which have been given and to discuss the ætiology separately with regard to each of these groups.

Ætiology may be examined under two headings, namely, predisposing factors and exciting causes. If reference be made to any text book of medicine

written before the middle of last century one cannot help being struck by the stress laid on the predisposing factors. That they should have received much attention is only natural, since the exciting factors were in the majority of cases unknown. The pendulum has now swung the other way, and the modern trend is rather to examine with care the exciting factors to the exclusion of those predisposing to the disease. It is unfortunate that either group of factors should be placed to one side, since both undoubtedly play some part in the development of the disease, and, in the majority of cases, the one factor would be powerless to evoke the disease without assistance from the other.

I—EMBOLIC FOCAL GLOMERULAR NEPHRITIS ("Flee-bitten Kidney")

This condition is found only in association with one disease, *i.e.*, subacute infective endocarditis (endocarditis lenta), due to one definite organism, *streptococcus viridans*.

There is in this case the most definite relationship between infection and renal damage to be found in the whole study of the disease. The lesion is confined to the glomeruli (the tubules escaping), and only certain of the glomeruli are affected, the others remaining normal. Microscopical examination of suitably stained sections will reveal small bacterial clumps acting as emboli in the capillaries of the affected glomeruli. The relationship between exciting cause and renal damage is thus clearly demonstrated.

In this condition, in common with the next, careful bacteriological examination of catheter specimens of urine will reveal the infecting organism in the majority of cases.

The autopsy records of the hospital for the years 1916 to 1922 inclusive show 20 cases of this condition, in all of which *streptococcus viridans* was proved as the infecting organism.

II—NON-EMBOLIC FOCAL GLOMERULAR NEPHRITIS

This differs from the preceding condition in several particulars. It is found associated with *any* blood stream infection, and this is produced by many various organisms. Although the organism can be recovered from the urine in a high percentage of cases with good technique (Elwyn)[7], yet stains for bacteria rarely show any in microscopical sections of the kidneys. It is suggested that the glomerular damage, which, as in the preceding, is limited to certain of the glomeruli, is produced during the removal of the organisms from the blood, and is, in fact, a non-purulent elimination nephritis.

Sixteen cases definitely of this nature were discovered in the autopsy records 1916 to 1922, but, owing to incompleteness of these records and a confusion of nomenclature, many cases probably belonging to this group had to be disregarded as being doubtful.

The 16 cases were distributed as follows :—

Streptococcal (10 *Cases*)—
Endocarditis (acute), 7 cases ;
Septicæmia (unknown focus), 1 case ;
Erysipelas, 1 case ;
Infection of carcinoma mammæ, 1 case.

Pneumococcal (3 *Cases*)—
All associated with pneumonia.

Staphylococcal (3 *Cases*)—
Endocarditis (acute), 1 case.
Septicæmia (unknown focus), 1 case ;
Osteomyelitis, 1 case.

A review of the literature gives the following information of the relation of infection to this group of nephritis. In the majority of cases the infection is streptococcal. The primary focus may be any of the following :—

Tonsils—These account for a majority of the cases.

Pharyngitis	*Endocarditis*
Rhinitis	*Erysipelas*
Otitis Media	*Infection of Wounds*

Lastly, *Scarlet Fever*, and, in connection with this latter, it may be pointed out that the association between this elimination nephritis and scarlet fever is found only during the first week—the nephritis which appears at a later date being of the diffuse glomerular type and, as will be pointed out below, being probably of a toxic or similar nature.

Besides the streptococcus, pneumococcus and staphylococcus, both *B. diphtheriæ* and *B. influenzæ* have been described as ætiological factors, and cases have been noted occurring in—apparently—uncomplicated rheumatic fever.

It may be pointed out that this condition is probably commoner than one would be led to think. Since it is not sufficiently widely recognised it is often included amongst cases of acute diffuse glomerular nephritis under the term of acute nephritis. One of the main clinical differences between these two is the fact that the elimination nephritis reacts readily and permanently to the removal of the infecting focus, whereas in the diffuse type the result of a similar operation is much more in doubt.

Before leaving this type of nephritis, mention should be made of *Trench Nephritis*. From the clinical and pathological picture of this disease as presented by Ryle and Tytler,[10] it seems probable that this condition is not a separate entity, but only a form of elimination nephritis associated with

pulmonary lesions, which may be either primary to or coincident with the renal damage.

With the exception of cold (see Chart A), no definite predisposing factor could be discovered. Although Ryle and Tytler point out that no definite focus of infection could be discovered, yet a streptococcus of the fæcalis type was recovered from the urine in 60 per cent. of their cases as against 10 per cent. of controls. The fact that the disease, if not immediately fatal, tended towards complete recovery is in favour of the condition being a focal rather than a diffuse glomerular nephritis.

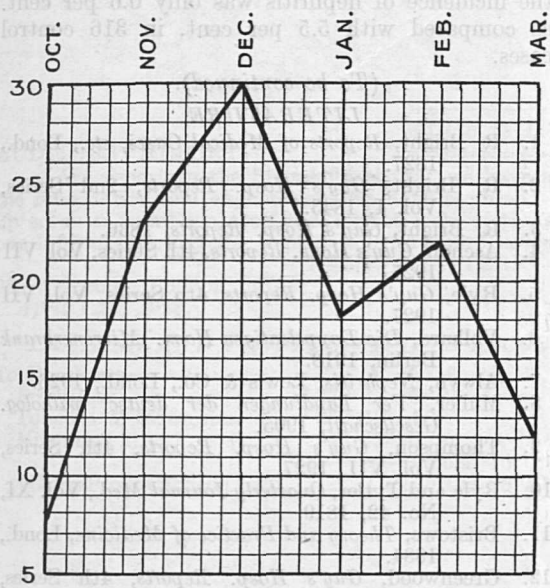

Chart A.—To show the increase in incidence of Trench Nephritis during the winter months.

III—DIFFUSE GLOMERULAR NEPHRITIS

It is found that this group includes the majority of acute, subacute or chronic cases of Bright's Disease when the arterio-sclerotic kidneys are excluded. As has already been mentioned, although it is the glomeruli which are principally affected, yet there is usually some coincident tubular damage, and perhaps the use of the term glomerulo-tubular nephritis is preferable.

Here one is presented with such a mass of supposed ætiological factors that one may readily realise that little is known as to the definite exciting cause.

It will have been noticed in discussing the two previous conditions that, with the exception in the case of trench nephritis—where, again, the true exciting cause is in doubt—no mention was made of any predisposing factors in the ætiology. This is readily explained if it is remembered that the renal changes in these cases are entirely secondary to the primary disease, *e.g.*, the endocarditis, which is thus the exciting factor. Any predisposing factor will only enter into the consideration of the primary disease, and does not, to any extent, effect the sequence of events leading up to the renal damage.

In the case of diffuse glomerular nephritis, however, one is dealing with a clinical picture in which the nephritis, if not the primary is at least the predominating factor. The nephritis is, in fact, the disease. In this case, therefore, predisposing, as well as exciting, factors enter into consideration.

Bright paid great attention to the predisposing factors to the disease, and in his record of 37 cases of nephritis published in 1843[2] we find :—

86%	with history of	*chill.*
63%	„	*alcoholism.*
38%	„	*rheumatism*
27%	„	*syphilis*
27%	„	*scarlet fever*
22%	„	*trauma to loins*
3%	„	*gout*

Now, although all these were not cases of diffuse glomerular nephritis, it is to be assumed that the majority of them come under that heading. These factors, therefore, give some idea of the predisposing factors to this disease as visualised by Bright.

Half a century later clinicians as Bristowe[11] were still laying stress on wet and cold and other factors producing changes in the cutaneous blood supply, while at the same time taking more notice of infections such as measles and rheumatic fever, an important position being given to scarlet fever. No suggestion as to a definite exciting cause had been substantiated up to the end of the 19th century.

In current text books the subject of ætiology is, if possible, more vaguely treated than it was 50 years ago. The predisposing factors such as exposure, alcoholism and trauma are either unmentioned or dismissed in a few words. The association of the disease with many fevers, more especially scarlet fever, is stressed, but the value of this is sadly diminished by the fact that no attempt is made in the majority of the books to divide up the types of acute nephritis; the one exception being focal glomerular nephritis, which is treated by itself. It is true that, for the first time, the streptococcus is mentioned as an ætiological factor, but that in an hesitant manner and with no suggestion being made as to the probable method by which the glomerular damage is brought about.

An attempt must be made to assess the ætiological factors of the disease at their true value and to trace the relationship between these factors and the lesions produced.

There seems to be little doubt that the only organism with a definite ætiological relationship to diffuse glomerular nephritis is the *streptococcus longus*. Claims have been made that the pneumococcus can produce identical lesions—Fraenkel found this organism in 0.8 per cent. of a large series of cases—but the relationship is still in doubt. Meningococcal and gonococcal infections can apparently, in rare cases, produce a diffuse glomerular lesion, but 99 per cent. of cases follow a streptococcal infection. The question to be solved is in what way the streptococcus produces the glomerular damage.

Now, although, as has been pointed out, the streptococcus is usually found in the urine in the focal form of nephritis, in the diffuse glomerular type this is rarely the case. One is therefore driven to assume that the glomerular change cannot be produced either by settling of the organisms in the kidney or during elimination in the urine, and one is left with the only alternative —that the organisms produce the damage by means either of a toxin or of some chemical change which they produce in the circulating blood. This theory is supported by the fact that the renal damage is found to be generalised, that is, all the glomeruli are affected to a greater or less extent.

When, however, the actual substance or change in the blood which produces the damage is considered, we find that no definite facts are known. The obvious suggestion would be that the focus of streptococcal infection is a source of a steady flow of toxin into the blood stream, with damage of the glomeruli as one of the results. This would seem to be upheld by Baird's work—unpublished —on *streptococcus scarlatinæ*, toxin with which he can produce in rabbits a nephritis of the diffuse glomerular type. On the other hand, it must be pointed out that the term " exotoxin," as used in this connection by certain writers—Greenwood[12]—is fallacious, since the majority of streptococci produce no true exotoxin. Moreover, Baird has found that the administration of alkalies of rabbits will give protection against large doses of toxin, and Osman, working first with Colwill[13] and, later, with Carter,[14] showed the same protection to occur clinically. Thus they showed that in 620 cases of scarlet fever given prophylactic doses of alkalies, the incidence of nephritis was only 0.6 per cent. as compared with 5.5 per cent. in 316 control cases.

(*To be continued*).

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Guy's Hospital College Catering Company, Limited.

BALANCE SHEET, 4th FEBRUARY, 1928.

Income.	£	*s.*	*d.*	£	*s.*	*d.*
Capital—						
Authorised—						
1,000 Shares of £1 each	1,000	0	0			
Issued—						
820 Shares of £1 each, 12*s.* paid	492	0	0			
Add Calls in Advance	2	0	0			
				494	0	0
Sundry Creditors—						
Accounts Due to Date	101	11	3			
Residents' Board, Paid in Advance	247	12	0			
Commission, Manager and Secretary	169	14	3			
Audit Fee	31	10	0			
Carried Forward	£550	7	6	£494	0	0

Expenditure.	£	*s.*	*d.*	£	*s.*	*d.*
Plant, Furniture & Equipment—						
Plant and Machinery	376	13	2			
Less Depreciation	61	0	6			
				315	12	8
Fixtures and Fittings	79	19	0			
Less Depreciation	8	1	4			
				71	17	8
Linen	51	16	1			
Less Depreciation	9	16	4			
				41	19	9
Utensils	82	11	5			
Less Depreciation	15	18	4			
				66	13	1
China and Glass	156	7	2			
Less Depreciation	27	17	10			
				128	9	4
Carried Forward				£624	12	6

	£	s.	d.	£	s.	d.
Brought Forward	550	7	6	494	0	0
Advertisements for Menu Cards, Paid in Advance	24	4	0			
				574	11	6
Students' Club Wine Account				87	11	1
Reserve for Income Tax				120	0	0
Reserve for Dividend at 6%				29	10	3
Profit and Loss Account—						
Net Profit for the 12 months ended Feb. 4, 1928	200	15	4			
Less Provision for Dividend at 6%	29	10	3			
				171	5	1
				£1,476	17	11

	£	s.	d.	£	s.	d.
Brought Forward				624	12	6
Cutlery and Plate	149	3	10			
Less Depreciation	23	15	6			
				125	8	4
Stocks—						
Provisions	87	8	1			
Minerals	10	8	4			
Tobacco and Cigarettes	43	0	7			
Stationery—Books & Dissection Sheets	5	8	4			
				146	5	4
Sundry Debtors & Debit Balances—						
Dining Room (Residents)	49	11	3			
Special Lunches	1	2	3			
Uniform and Dress	7	14	0			
				58	7	6
Cash—						
At Bankers	431	6	8			
In Hand	9	11	3			
				440	17	11
Preliminary Expenses	122	4	8			
Less Amount Written Off	40	18	4			
				81	6	4
				£1,476	17	11

AUDITORS' REPORT—

We report to the Shareholders that we have audited the above Balance Sheet and have obtained all the information and explanations we have required. In our opinion, such Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Company's affairs, according to the best of our information and the explanations given to us and as shown by the Books of the Company.

KEMP, CHATTERIS, NICHOLS, SENDELL & Co., *Chartered Accountants.*

36, Walbrook, London, E.C.4.
April 12th, 1928.

R. DAVIES-COLLEY
J. J. CONYBEARE
} *Directors*

TRADING AND PROFIT AND LOSS ACCOUNT FOR YEAR ENDED 4th FEBRUARY, 1928.

To Purchases—	£	s.	d.	£	s.	d.
Provisions	5,279	14	6			
Tobacco & Cigarettes	363	12	4			
Minerals	42	3	10			
				5,685	10	8
„ Gross Profit Carried Down				3,198	8	10
				£8,883	19	6
To Salaries and Wages				1,777	9	6
„ Commission				169	14	3
„ Gas				292	1	11
„ Electricity				94	19	0
„ Insurance				18	11	8
„ Printing and Stationery				17	3	7
„ Laundry				43	6	10
„ Repairs				24	14	2
„ Renewals and Replacements				31	12	7
„ General Expenses				189	8	4
„ Audit Fee				31	10	0
„ Uniforms				7	14	0
„ Depreciation—						
Plant & Machinery	61	0	6			
Fixtures & Fittings	8	1	4			
Linen	9	16	4			
Utensils	15	18	4			
China and Glass	27	17	10			
Cutlery and Plate	23	15	6			
				146	9	10
„ Preliminary Expenses Written Off				40	18	4
„ Income Tax Provision				120	0	0
„ Net Profit Carried to Balance Sheet				200	15	4
				£3,206	9	4

By Sales—	£	s.	d.	£	s.	d
Dining Room	5,293	3	9			
Smoking Room	1,722	17	5			
				7,016	1	2
„ Residents' Board				1,609	7	11
„ Special Lunches				117	13	5
„ Stocks in Hand—						
Provisions	87	8	1			
Tobacco & Cigarettes	43	0	7			
Minerals	10	8	4			
				140	17	0
				£8,883	19	6
By Gross Profit Brought Down				3,198	8	10
„ Advertisement Fees, Menu Cards				8	0	6
				£3,206	9	4

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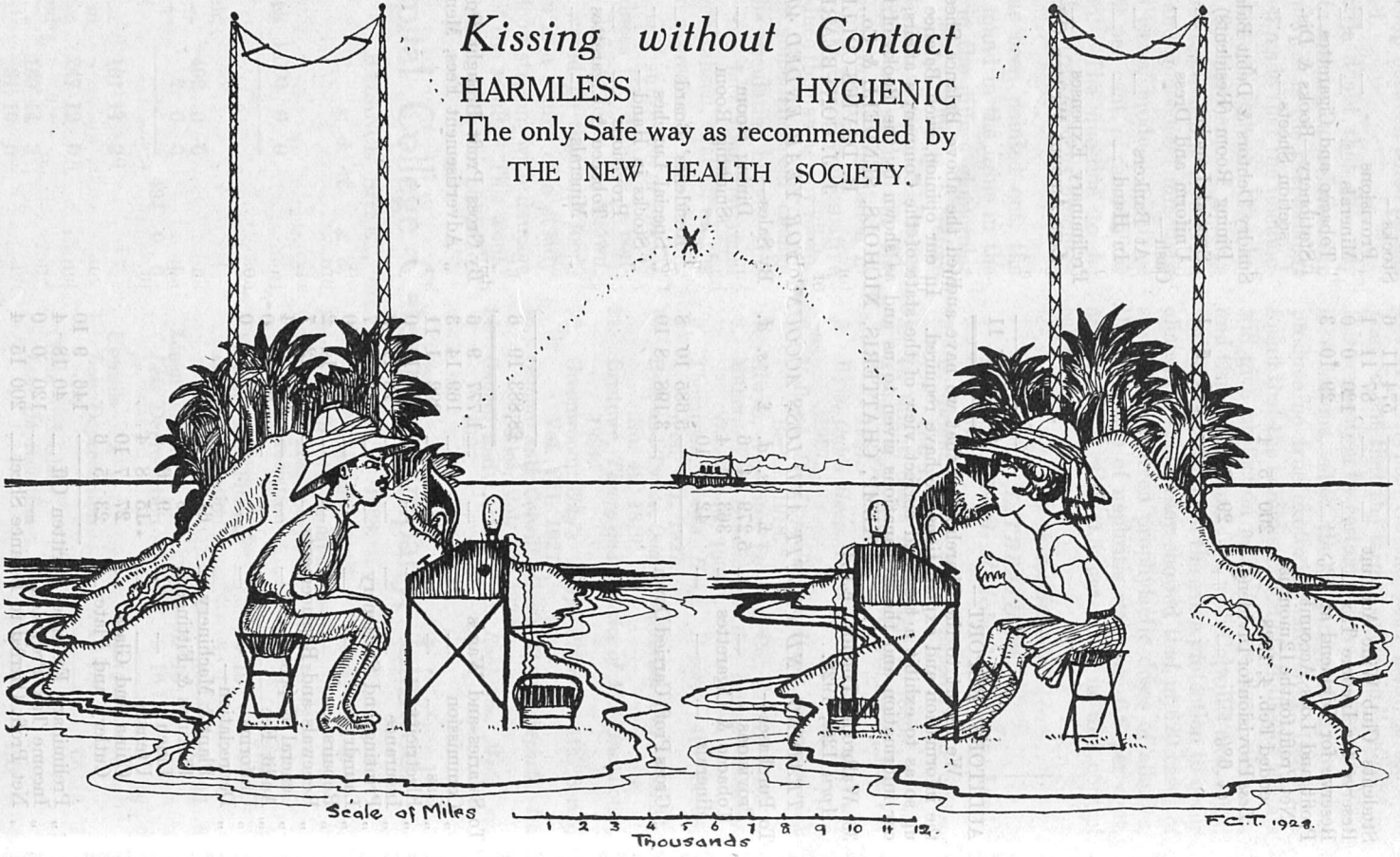


A Case of Henoch's Purpura.

A SEVERE case of Henoch's purpura is sufficiently rare to warrant a few notes on a case seen here recently.

The patient, a young European man of 31, had a clean medical history until this illness. He came to see us on November 15th, 1927, and told us that on his way down from Tientsin, which port he left on November 9th, he had been confined to his bed with sore throat and pain and swelling in his right knee. He was then apparently well and happy. The throat showed nothing in particular, but it was obvious that it had been bad.

He was given an iron tonic and told to use a formalin lozenge.

Three days later—November 18th—I was sent for urgently in the morning and told that he had had a very bad night with acute abdominal pain and vomiting. He was found lying on a couch complaining of great pain at a spot he showed us midway between navel and left ninth costal cartilage. A vessel was by his side which contained 2 quarts of dirty, watery vomit, sweet to the smell. The appearance of the vomit was like that produced by mixing black ink and water. Pulse 80. Temperature, 98°.

In many ways the appearance of acute abdomen was simulated, but one felt that further watching was necessary before making a diagnosis. No morphia was given so that a clear perception should still be possible.

At 10 a.m. the abdomen was boat-shaped, there was no rigidity and the wall moved well to respiration. There was no tenderness in either iliac fossa. An injection of atropine was given at 11.

During the day the pulse got more thready. In the afternoon the patient was removed to hospital and stood the journey in a boat across the harbour quite well. A specimen of urine was obtained and found to contain a good quantity of albumen, but no sugar; acid; specific gravity 1035.

Soon after arrival in hospital there was a small vomit of bright red blood. The man was easier, and on routine examination of his body a purpuric eruption was found on his legs. The spots were large and situated over the middle third of each leg, on the shin and sides. He told us these spots had been there some days and had come out after his knee was swollen on board ship. The possibility of acute abdomen was then given up and the case regarded as one of Henoch's purpura.

At 7 p.m. a small dose of morphia and 5 c.c.'s of blood clotting serum (Mulford's thrombol) were given. During the night there were several vomits, chiefly of black, watery fluid. The patient drank a little water, but it always restarted the vomiting.

On the morning of November 19th a big glucose enema was given and retained. Later in the day a very foul blood-stained stool was passed. The vomiting continued, but was now clear watery. The kidneys worked normally and the amount of albumen was less than the previous day.

On November 20th had an enormous black fluid vomit, accompanied by much pain, which necessitated morphia to relieve it. After this vomit—which took place in the early morning—he was very comfortable all day.

He was now having an injection of thrombol 5 c.c. every day and three nutrient enemata during the 24 hours. There was still some blood in stool.

By November 21st urine was free of albumen. If he took fluids by the mouth they were retained for about eight hours, but then vomiting started of fluids and dark green bile-stained mucus. Colicky pains always accompanied this.

By the 23rd some improvement was noticed and a little minced chicken was given, but six hours later pain and vomiting again started.

The next three days were very bad both as regards pain and vomiting, and the abdomen became distended, but there were no localising symptoms. The daily stool still smelt strongly and red blood was visible in each one.

By November 27th feeling so much better that a cup of tea was allowed. Whilst the nurse was absent he seized the pot and emptied it, thus drinking five cups. The effect was amazing. In a few hours all the pain and vomiting returned and he was a very sick man again.

Thus he continued, at times better, weary at the length of his illness and occasionally vomiting, but it was noticed that these vomits did not produce the great collapse which the ones at the beginning of the illness did, and that his recovery from them was very rapid. He had still 5 c.c. doses of thrombol daily and three nutrient enemata.

On November 30th the left knee was painful and again there was red blood in stool. but on the following day improvement started and beef juice, in 1 drachm doses, was allowed.

Daily he progressed, but on December 8th a big vomit again displeased us. It contained some lumps which looked like sloughs of mucous membrane, and one was red, as if only recently cast off. In a few hours he had recovered from this vomit, and on the following day rectal feeding

was stopped. He was taking small feeds only, and now that the large amounts of fluid were no longer given per rectum, his weakness became most pronounced.

His progress was now good and he left hospital on December 19th.

In January, 1928, he returned to duty, and since then I have seen him three times, when he reports "All well."

The great interest of the case, apart from its rarity, is :—

(1) The way in which is exhibited the classic book description in that there were joint pains, albuminuria, spots, vomiting and great abdominal pain, simulating acute abdomen.

(2) The length of time—22 days—on which rectal feeding alone was tolerated.

(3) The enormous vomits, which in quantity only, not colour, reminded one of the early vomits of a cholera patient. This led to one wondering whether the sore throat which started the illness was caused by a hæmolytic streptococcus. In many ways the illness looked an infection. A great breaking-up of blood was going on as shown by the size of the vomits, both in the original attack and in the relapses he had in hospital.

C. H. B.
G. P. B.

Swatow, China.

A Case of Interest.

JOHN ——, æt. 48, labourer, for 22 years a seaman. Family history good; three apparently healthy children. In 1905 contracted venereal disease and was treated regularly until 1907 with mercury and pills.

In 1916, before getting married, he had his blood tested :—

1st Test—Faintly positive Wassermann reaction.
2nd Test—Negative.
3rd Test—Negative.
1918, 4th Test—Negative.

During these two years he was under treatment with N.A.B.

In 1922 he again had 6 injections of N.A.B.

The Present Illness—

At the end of 1922 he began to get attacks of pain in his legs, coming on in bouts, starting below the knee and radiating down the front of the leg to the ankle or toe. The pain came on suddenly, lasted for a second or so and then passed off; it was described as being like an electric shock.

These attacks have been more frequent recently, and have been worse when he has had bronchitis—his legs "give out" and he falls to the ground.

On Examination—

The patient is a fairly fit, wiry-looking man, and walks with a natural gait.

There was nothing of note in the circulatory or urinolgenital systems; numerous rhonchi were present in the chest.

The pupils were pin point and did not react to light; there was no snout area of analegesia, but there were areas on the ulnar side of the forearm and over the legs.

The knee and ankle jerks were absent and the plantar response was a doubtful flexor.

No other abnormalities were found.

The Wassermann reaction in the blood and cerebro-spinal fluid was negative. No cells or increase of protein was found in the C.S.F.

This case is particularly interesting in that it illustrates the following points :—

(1) That in spite of active treatment with mercury from the onset, followed by a prolonged course of injections at a later date, tabes dorsalis became manifest in due course.

(2) That the Wassermann reaction in the blood and cerebro-spinal fluid was negative, and there were no cells or increase in the protein content.

(3) It shows that, despite active treatment, no guarantee can be given that the late effects of syphilis will not appear in due course.

(4) It raises the question of the therapeutic value of mercury in syphilis.

There is a considerable body of opinion at the moment who believe that mercury may effect a clinical cure at the time of use, but that it has no power of preventing the later syphilitic manifestations.

(5) It suggests that either certain strains of spirochætes are more virulent than others, or else alternatively that people in foreign climes are less resistant to its onset.

(6) Finally, it suggests that possibly the present N.A.B. treatment may not be without similar failings. Time alone can show this.

I am indebted to Dr. Symonds for permission to publish this case.

E.M.B W.

Scaling.

A Clinical Lecture by H. L. Messenger, Esq., M.R.C.S., L.R.C.P., L.D.S., R.C.S.

GENTLEMEN,—If you will turn to a well-known text book on operative dental surgery, you will find the following sentences contained therein. I should like to quote them to you :—

> " Whatever other causes of gingivitis there may be, the presence of tartar under the free margins of the gums is certainly one of them, and it is idle to expect a complete cure unless the tartar is entirely removed. So much is this the case that if, after a scaling and consequent general improvement, one or two places still show signs of inflammation the cause will almost always be found in the presence of pieces of tartar overlooked in the first operation."

Now, what is this substance on the removal of which the writer of this book is so insistent? How comes it to find its way on to the surfaces of the teeth and below the free margins of the gums? What is the best method of procedure in order to secure its effectual removal? What advice are we going to give our patients in order to reduce its re-collection to a minimum?

The name tartar is derived, as some of you may be aware, from that deposit which is found in casks of wine as a result of the precipitation of potassium hydrogen tartrate and, in the good old English illogical way, the term has been applied to the deposit which is found on teeth, because the two substances are somewhat similar in appearance. But, of course, you will understand there is no resemblance between the two substances other than in their appearance, for neither tartaric acid nor the salts of tartaric acid are present in the tartar which is found on the teeth.

The Salivary Glands—

Situated in close relationship to the posterior border of the ascending ramus of the mandible, the parotid is the largest of the salivary glands. You will remember that a portion of it occupies the posterior half of the glenoid fossa and that a detached part known as the socia parotidis is projected on to the surface of the masseter muscle. Further, it reaches as low down as the angle of the jaw. It surrounds the bifurcation of the external carotid into the superficial temporal and internal maxillary arteries, and the facial nerve emerges from its midst. The parotid is surrounded by processes of the cervical fascia, which secure it firmly into position, and it is the consequent lack of distensibility which makes that distressing condition, mumps—acute non-suppurative parotitis—such a painful malady. Its secretion finds its way into the mouth along Stenson's duct, which crosses the masseter muscle, perforates the buccinator and opens on the summit of a little papilla situated in the buccal mucous membrane of the cheek, opposite to the second maxillary molar tooth.

The sub-maxillary gland lies beneath the mucous membrane of the floor of the mouth. Its duct, Wharton's duct, opens on the summit of a papilla alongside the frenum of the tongue. The sublingual gland, also in the floor of the mouth, pours its secretion either directly into the mouth or into Wharton's duct.

Numerous mucus glands in the lips, the cheeks and the gums open into the mouth.

The Saliva—

The combined secretion of all these glands is known as the saliva, and a quantity varying between one and three pints is passed into the mouth daily. Saliva consists chiefly of water, solid matter being limited to 5.9 parts per 1,000. The solid matter is made up of (*a*) soluble organic matter such as mucin, ptyalin and globulin ; (*b*) epithelium shed from the mucous membrane of the ducts, lips, cheeks and tongue ; and (*c*) soluble inorganic matter such as calcium and sodium carbonates, calcium, sodium and magnesium phosphates, sodium and potassium chlorides and potassium sulphocyanides.

The secretions from the individual glands vary somewhat in composition. The parotid secretes a thin watery solution with calcium carbonate largely in excess, without mucin, and containing in all 0.3 per cent. of solids.

The submaxillary secretion is thick, viscid and ropy. On standing, it deposits sodium and potassium chlorides. The solid element varies between 2.1 per cent. and 2.5 per cent., and consists of mucin, ptyalin, calcium and magnesium phosphates and carbonates and sodium and potassium chlorides. You will note that calcium phosphate is in excess.

The sublingual gland secretes a solution containing 2.75 per cent. of solids, with ptyalin and calcium phosphate in abundance. The mucous glands are responsible for a mixture of mucin and sodium phosphate in their secretion.

I draw your attention to the excess of phosphates in the submaxillary and sublingual secretions.

Tartar—

The salts which I have enumerated are held in solution by an excess of carbon dioxide gas, and, hence, the former definition of tartar. Tartar is a deposit from the saliva on to the nearest hard surface of salts, held in solution by excess of carbon dioxide gas, which is liberated on exposure to air. But of this more in a moment.

Tartar is found most commonly—(*a*) on the lingual surfaces of the mandibular incisors and canines, (*b*) on the buccal surfaces of the maxillary molars, and (*c*) on the lingual surfaces of the mandibular molars. But any tooth, denture or appliance may be the site of tartar deposit, providing that the conditions are favourable.

Tartar has been classified into hard and soft, but the one variety merges insensibly into the other. The difference depends on the rapidity with which the deposit is made and also on the site at which it takes place. Buccal maxillary molar tartar is usually soft and lingual mandibular incisor tartar hard, owing to the former containing almost entirely carbonate and the latter a large proportion of phosphate.

It is, however, no uncommon experience to see exceedingly soft lingual tartar which has been deposited in large quantities in two or three months. Rapidly deposited, tartar is light yellow or buff in colour; slowly formed the deposit is dark brown or black.

The signs and symptoms which accompany the presence of tartar on the teeth may be nil or they may be intense.

Unpleasant taste in the mouth, fœtor of the breath, rough surfaces irritating to the tongue, hæmorrhages from the gums and distaste for food are some of the more common. And the patient of the opposite sex makes unsuccessful attempts to overcome some of these by the use of overpowering scents and perfumes.

And now I come to the second question which I put to you, namely, how comes it to find its way on to the surfaces of the teeth and below the free margins of the gums?

There are a number of conditions which act as what one might call predisposing causes. Chief amongst these are—(1) Lack of function, (2) lack of brushing, (3) rough surfaces on the teeth, (4) irregularity of the teeth, and (5) condition of the saliva. Under the heading "Lack of Function" it is possible to compile a long list of causes which may encourage tartar formation. We are all familiar with painful conditions of the tooth which throw it out of action and predispose it to a deposit of tartar. There are caries with and without exposure of the pulp, fracture and splitting off of enamel exposing sensitive dentine, exposure of cementure, pulp changes, and so on. Similarly, painful conditions of the gums favour tartar deposit owing to the lack of proper mastication, with its consequent cleansing action. And for the same reason general illnesses also contribute by the absence of a diet likely to bring about this action.

The loss of the opposing tooth or teeth is another cause and also people get into the habit for one reason or another, quite apart from any dental condition, of biting on one side of the mouth only. The result is a heavy deposit of tartar on the non-functioning side, whilst the functional side remains clear.

One cannot escape the fact that there is no such effectual means of keeping the teeth clean as by the thorough mastication of the perfect diet. It is not, however, possible to attain to such high ideals, so we do the next best thing and clean the more accessible portions of the teeth with a tooth brush. Any slackening of our efforts in this respect increases the rapidity of tartar deposit, but may delay the appearance of abrasion cavities.

And then, again, the defects of hypoplastic teeth and irregular position of others encourage tartar owing to the difficulty of cleaning and lack of access of the tongue.

The condition of the saliva varies in individuals, and some have a more rapid deposit than others. Mouth breathing is also a factor. The tartar deposit is increased by the more thorough exposure of the saliva to the air in these cases than when breathing is performed normally.

Now, what is it that actually takes place at the time of the deposit?

There are strong reasons for supposing, and the bacteriologists tell us, that certain organisms, leptothrix and actinomyces, play an important part and actually form an organic stroma of threads and vegetations in which lime salts are deposited. As the deposition proceeds the formed tartar is constantly assimilating fresh threads, in which are encrusted fresh lime salts. The escape of carbon dioxide from the saliva is an important contributing cause.

The Operation—

Tartar must be removed from the surfaces of the teeth because, if it is allowed to remain for any length of time, its presence will give rise to gingivitis, to periodontitis, to osteitis and to the thousand and one local and general conditions which follow on from these three affections.

I would like now to tell you about the instruments which I use for the purpose of scaling. I myself like an ordinary scaler of the simplest type, a large spoon excavator, a pair of Younger's scalers, a very, very slim chisel scaler and a flat oval file of the type used for the trimming of the edges of cohesive gold fillings. I like to have an ample supply of warm mouth wash, and I wipe away the collection of food débris which may hide the tartar, especially in the lower molar region, with cotton wool dipped in peroxide of hydrogen. It is usually advisable to limit the first operation to the six or eight lower front teeth. I do not think that it is generally realised what a large area of gum is made sore on these occasions, and therefore an additional way in for infection. I have noticed on two occasions that there has been a definite slight pyrexia, which can only be attributed to the introduction of toxins through the large raw area produced.

We all have our own pet ways of performing the operation of scaling, which are all very successful in our own hands. I start off with the simplest type of scaler and, standing behind the patient, do the left approximal surfaces of the six lower front teeth. I then come round to the front and do his six right approximal surfaces with the same instrument. I then use a large excavator and remove a flake which remains on each of the lingual surfaces and a similar flake which may or may not be on the labial surfaces.

Now, it is usually impossible to remove the tartar from what I might call the strictly approximal surfaces by means of an ordinary scaler. So it is necessary to resort either to an exceedingly slim chisel of the watch spring type or to the small oval file which I have mentioned.

I am very keen myself on the use of the file, and I get better results with it than I do with the chisel. And this brings me on to the much debated question as to whether it is justifiable to use an acid, 10 per cent. sulphuric acid, for the purpose of disintegrating this strictly approximal tartar.

I have been introducing, for a considerable time now, on the little file, 10 per cent. sulphuric acid into the pockets between the teeth, and I file away the approximal tartar. There is no difficulty in distinguishing between the rough sensation of the tartar and the smooth feel of a tartar-free root, and I have had no case in which there has been any untoward result, because the minute quantity of acid introduced is more than neutralised by the carbonates and alkaline salts present. For this reason it is not necessary to make use of any alkaline application after the acid. It is suggested that the acid acts as an astringent to the gum, but although this may be so theoretically, I do not think so myself, for it is used up so rapidly in the process for which it is introduced.

This brings us to the stage at which we hope that all the gross tartar has been removed—*i.e.*, the tartar visible to the naked eye. The process is completed by polishing the surfaces on which we have been operating. The most convenient method is by the use of wet superfine pumice, introduced in rubber cups which are attached to mandrels. Polishing strips will also be required.

And is it advisable to make any application to the gums and pockets after the operation is completed? I think that it is. And in view of the success which attends the exposition of arsenic in many local conditions of the gums—and all said and done, the treatment of gingivitis and allied conditions is mainly empirical—I make it a routine procedure to soak the gums and pockets in a solution containing arsenic immediately after the operation. It is convenient to prescribe it along with ipecacuanha and glycerin, and I give you this prescription :—

R/

Vin. ipecac.	1 oz.
Liq. arsenical.	3 dr.
Glycerin.	1 dr.

Misce. Mitte 1½ oz.

The solution to be applied to the gums morning and night as directed.

I find on the occasions when the gingivitis is marked that it is a distinct advantage to teach the patient how to apply the solution to the gums and to instruct him to do so morning and night for a week or so. The quantity ordered in the prescription is more than sufficient for this purpose.

My remarks have been so far confined to the scaling of the lower front teeth, but it is, of course, necessary to complete the operation on the remaining teeth, and this is best done at a subsequent visit. I usually allow one week to elapse, and it is then possible to make the observation suggested in the second sentence of my text. A careful examination of the marginal gingival will probably reveal one or more inflamed areas. A still further examination will reveal the cause in a small piece of tartar left behind at the first operation. The removal of these small pieces completes the cure.

Just a few remarks about scaling the remaining teeth. The other places which require attention are the buccal surfaces of the maxillary molars. The tartar is soft and rather cheesey. A large excavator serves the purpose very well, but the approximal surfaces are best dealt with by a pair of Younger's scalers.

And then the lingual surfaces of the mandibular molars must not be overlooked. This is where the

preliminary application of peroxide of hydrogen is exceedingly useful, for soft foodstuffs collect and stick very readily in this region, thereby hiding the tartar from view.

Finally, we have the remaining approximal surfaces with the lingual surfaces of the lower premolars, if these were not dealt with at the first visit and any maxillary teeth which may require attention. The teeth are then polished with cups and strips, and an application of arsenic and ipecacuanha made.

Now, I must consider the last question which I propounded to you, and which resolves itself into a little chat with your patient on oral hygiene.

And you will not tell him that the vast increase in the incidence of pyorrhœa at the present time is coincident with the vast increase in the use of the tooth brush, whatever suspicions you yourself may have that the laceration of gums from the bristles may produce a way in for infection.

You will point out to him that the perfect hard diet, with its goodly modicum of fruit, keeps the perfect set of teeth in the perfectly developed jaws, clean. You will point out to him how far short civilised man falls in this respect. You will warn him of the danger of allowing the easily fermentable carbohydrates of biscuits and cakes to cling round the necks of, and in the spaces between, the teeth.

You can point out to him how the taste of chocolate, for example, will remain for an hour or more after the substance has been swallowed owing to its clinging to the teeth, and how the subsequent thorough mastication of an apple will clear every trace of chocolate.

And then you will tell him that as the ideal is not attainable, the next best thing is to make good the deficiencies by the use of a suitable dentifrice and brush. I do not think that I am going into this question of the tooth brush now, but you should point out to him that if he is going to brush his teeth once a day only it is best to do so at night and after the last meal. I believe myself that a compromise should be made in the matter of brushing and twice a day, in my opinion, is sufficient. We are all familiar with cases of abrasion, and I have some very pretty specimens of upper front teeth which have been more than half brushed away by the tooth brush.

And then as to dentifrice. You are frequently asked by your patient is such and such a tooth paste good. My usual reply is that most of the well known pastes can be used with impunity. There is a great difference of opinion as to whether the paste should be alkaline or acid in reaction. It seems to me that soap is an essential constituent of a dentrifrice, and therefore that dentifrice must be alkaline in reaction.

The paste is the more convenient way of carrying a dentifrice, but I rather think that the powder form is the more effective. I give you this good old Guy's prescription in conclusion :—

R/

Ol. cinnam.		10 m.
Ol. gaulther.		10 m.
Pot. chlor.		40 gr.
Pulv. sap. dur.		80 gr.
Calc. carb. precip. ad.		1 oz.
Fiat. dentifricum	Mitte	4 oz.

There is also a deposit on the teeth known as seruminal tartar, but that is another story.

Sport.

Rugby.

THE "Rugger" season of 1927–28 being completed I have pleasure in enclosing chart and statistics of the 1st XV performances. I am afraid that on the whole it has been a disappointing season, both from our scoring capacity and also the bad treatment given us by the "Clerk of the Weather."

Of the programme of 31 matches arranged (not including Cup Ties) only 24 were played, 26 in all including Cup matches. All the following sporting fixtures were scratched due to inclement weather: Old Alleynians, U.S. Portsmouth, O.M.T., R.A.F., Rosslyn Park, Cambridge University and London Irish.

Until the Bristol match, March 3rd, the games were very even, low scoring being predominant, but here, chiefly due to a weak team being sent to Bristol, we lost by the big margin of 40–3. By a coincidence during season 1925–26 our heaviest defeat was also at Bristol, but on that occasion the score was only 29–0. Also this is the first season for some considerable time since our opponents' score was greater than our own.

Further disappointment came when we lost the "Cup" to Bart.'s after a good game, in which we were heavily handicapped by injuries. However, on the bright side it is interesting to note that no London club with whom we had a fixture beat us.

We won our games against Harlequins, Old Blues, London Scots, Blackheath, Old Leysians and drew with Richmond. T. O. Garland played a splendid game throughout the season, and was,

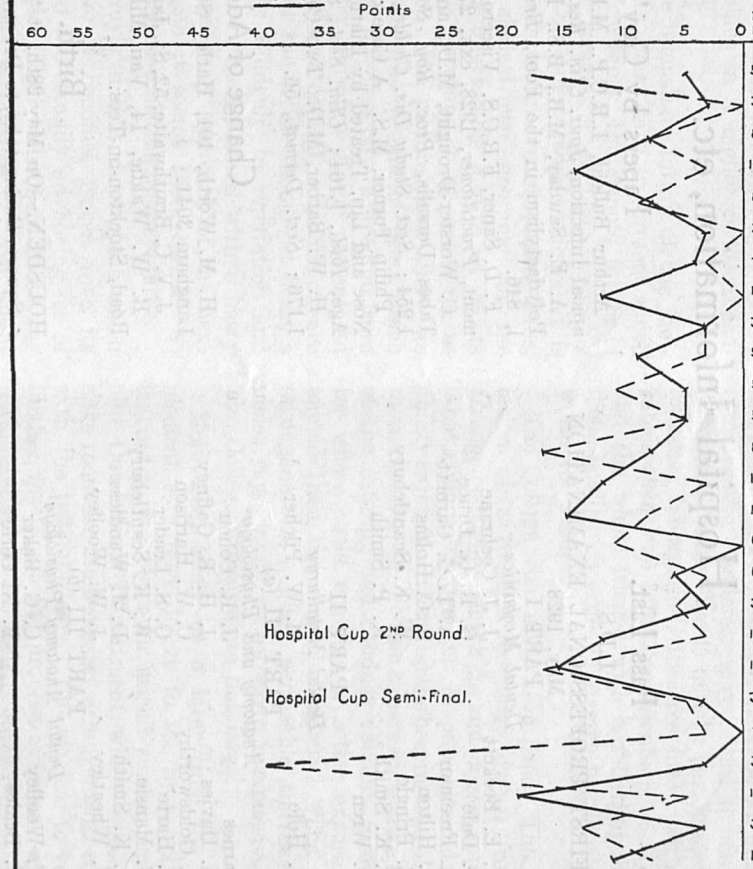
GUY'S HOSPITAL R.F.C.

— SEASON 1927-28. —

(For) **TOTAL POINTS** 190
Average Points per Match 7·3

— Percentage — 52·0

(Against) **TOTAL POINTS** 206
Average Points per Match 7·54



Score Points For	Against	G	T	G	T	G	DATE	OPPONENTS	GOALS	TRIES
							1927			
5	18	1	-	+4	-	A	Sept.17	Coventry	Boyle	Spence F.
3	0	-	1	-	-	H	" 24	Catford Bridge		Lewis
8	8	1	1	+2	-	H	Oct. 1	Gloucester	Durr	Cameron, Durr
14	3	+2	2	+1	-	H	" 8	Lanelly	Durr 2+	Lewis Garland Durr
8	9	+2	-	++2	1	A	" 15	Bristol	Durr +	Garland
3	0	-	1	-	-	H	" 22	Harlequins		Preen
4	3	ø1	-	+1	-	H	" 29	Old Blues	Spence H ø	
12	0	+1	3	-	-	H	Nov. 5	London Scots.	Durr +	Robinson, Preen, Malone
3	3	-	1	ø1	-	H	" 12	Coventry		Lewis
9	3	-	3	-	1	A	" 19	Blackheath		Lewis 2, Robinson
5	11	1	-	1	2	A	" 26	Northampton	Johnson	Cullinan
5	5	1	-	1	-	A	Dec. 3	Richmond	Durr	Durr
8	17	1	1	+2	3	A	" 10	Aberavon	Tregarthen	Spence H. Lewis
							1928			
12	3	-	4	-	1	H	Jan. 7	Devonport S.		Lewis, Popplewell, Myburgh, Malone,
15	8	-	5	+2	-	H	" 14	Birkenhead Pk		Mostert, Lewis, Ryan, Garland 2
0	11	-	-	1	2	H	" 21	Aberavon		
6	3	-	2	-	1	A	" 28	Gloucester		Spence H Garland
3	6	-	1	-	2	H	Feb. 4	Newport		Ryan
12	3	-	4	-	1	N	" 7	Kings College		Robinson, Lewis, Garland, Myburgh
16	17	2	2	øø2	3	A	" 18	Plymouth Alb	Durr 2	Garland, Robinson 2, Spence H.
3	5	-	1	1	-	H	" 23	Bart's Hosp.		Garland
-	3	-	-	-	1	A	" 25	Birkenhead Pk.		
3	40	-	1	5	5	A	Mar 3	Bristol		Popplewell
19	5	2	3	1	-	A	" 7	R.N. College	Hogbin 2	Lewis, Ive 3, Garland
3	14	-	1	1	3	A	" 10	Bedford		Jones
11	8	1	2	1	1	A	" 31	Old Leysians.	Hogbin	Popplewell, Ive, Jones

PLAYED 26. WON 12 DRAWN 3. LOST 11.

+ Indicates Penalty Goal ø Indicates Drop Goal

I believe, played in a Trial match for England, also P. D. B. Spence on the occasions he played proved a good full back, his kicking being of great value to the forwards.

The statistics, together with the chart, give an idea of the season's games, and the table of past seasons' figures can be used for comparison.

SEASON 1927–28

The following have taken part in 1st XV matches during the season :—

Ryan, Malone (25), Popplewell (24), Lewis (23), Simpson-Smith, Myburgh (22), F. H. Spence (21), Cullinan, Robinson, Garland (20), Cameron (18), Scholefield, Durr (16), Hogbin, Preen (15), B. P. Spence (14), Morgan (8), G. T. Clarke, A. R. Clarke, Eustace (6), Boyle, Mostert, Ive (5), Harding, Thomas, Lashmore, Clegg (4), Tregarthen, Jones (3), Johnson, Richmond, Burg (2), J. C. Hutchinson, Calhaem, L. Brown and Barnes (1) each.

The following have scored tries :—

Lewis (10), Garland (9), Robinson (5), Ive, F. H. Spence (4), Durr, Popplewell (3), Preen, Malone, Ryan, Myburgh, Jones (2) and Cullinan, Mostert and Cameron (1) each.

The following have scored goals :—

	Tries		
	Converted	*Dropped*	*Penalty*
Boyle	1	0	0
F. H. Spence	0	1	0
Durr	6	0	3
Johnson	1	0	0
Tregarthen	1	0	0
Hogbin	3	0	0

Making a total of—Tries, 51 ; Tries Converted, 12 ; Dropped Goals, 1 ; Penalty Goals, 3 ; Total Points, 190.

Our opponents' score was as follows—Tries, 45 ; Tries Converted, 18 ; Dropped Goals, 2 ; Penalty Goals, 9 ; Total Points, 206.

Therefore the complete figures are :—

Played 26, Won 12, Lost 11, Drawn 3, Total Points For 190, Total Points Against 206 ; Average Points per Game (for) 7.3, Average Points per Game (against) 7.54.

Percentage 52 per cent.

Season	*P.*	*W.*	*D.*	*L.*	*Points F.*	*A.*	%
1923–24	27	13	3	11	285	151	53.4
1924–25	31	16	3	12	291	230	56.45
1925–26	29	14	3	12	235	234	53.5
1926–27	34	18	3	13	371	294	57.35
1927–28	26	12	3	11	190	206	52.0

ROY C. HOLLOWAY.

Hospital Information, etc.

Pass List.

L.D.S

FIRST PROFESSIONAL EXAMINATION

May, 1928

PART I

Dental Mechanics

F. H. E. Beckett
L. D. Dale
M. A. Freeman
L. B. Hilton
K. E. Pringle
C. R. K. Smith
T. D. Wren
J. J. Cochrane
G. R. G. Druce
A. T. G. Garnett
S. C. Holms
W. K. Scantlebury
K. P. Smith

PART II

Dental Metallurgy

C. H. Hole
M. W. Pilcher

PART III (*a*)

Anatomy and Physiology

J. Barnes
G. M. Davies
F. J. Goldsworthy
L. P. Harte
J. W. Mansie
C. R. K. Smith
W. J. Wheatley
J. R. Cohen
J. H. R. Gaffney
C. W. Harrison
G. S. Leader
W. K. Scantlebury
D. J. Wandless
J. W. Woolley

PART III (*b*)

Dental Anatomy Physiology

J. W. Woolley
S. W. Beales
A. F. de Villiers
R. E. L. Jones
R. E. Wiles
C. G. Baker
F. N. Corfe
W. H. Dodd
O. Lyth
I. C. Wilson

Papers by Guy's Men.

Arthur Bulleid, L.R.C.P., M.R.C.S., L.D.S. Periapical Infection, *Jour. Clin. Res.*, 1928, xiv, 39.

A. E. Sawday, M.B., B.S., F.R.C.S. A Case of Polydactylism in the Foot, *Brit. Med. Jour.*, 1928, i, 846.

F. D. Saner, F.R.C.S. Viscero-Ptosis and its Treatment, *Practitioner*, 1928, cxx, 279.

C. Worster-Drought, M.D., and another. Juvenile Tabes Dorsalis, *Proc. Roy. Soc. Med.*, 1928, xxi, 1,254 ; *Sect. Study Dis. Childr.*, 54.

Philip Turner, M.S. A Case of Epithelioma of the Nose and Lip, Treated by Diathermy Fourteen Years Ago, *Ibid.*, 1,164 ; *Clin. Sect.*, 88.

H. W. Barber, M.D. Two Cases of Sarcoid, *Ibid.*, 1,176 ; *Sect. Dermat.*, 56.

Change of Address.

H. M. Worth, 101, Harley Street, W.1. 'Phone: Langham 3041.

J. V. C. Braithwaite, 52, St. James' Road, Leicester.

R. W. Waldie, 14, Van Mildert Terrace, Farm Road, Stockton-on-Tees.

Birth.

HOUSDEN.—On May 28th, at "Caldecotts," Church Square, Basingstoke, to Dr. and Mrs. Leslie Housden —a daughter.

EDS. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

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Volume XLII. *June 16th, 1928.* *Number 1041*

PASSIM

WISE men have said that the state of any civilisation may be judged from the ability of individual members to forecast their own immediate future and provide accordingly. We feel that it is going to be poor consolation as we stand in to-morrow morning's train and at the end of the present month we receive certain outrageous demands for monies due, or when about this time next year we draw expensive blanks in several sweepstakes, to reflect that our very ability to foresee each of these uncomfortable events denotes our existence in a highly civilised condition.

If, however, the immediate future of the individual has come in these days to present much that is cast-iron certainty, the remote future of communities still remains a problem tempting enough to those bold spirits whose mission it is to fill the middle pages of our evening paper. Thus, we find a very clerical pen emerging for the moment from the unutterable depths of gloom which so profitably surround it to sketch for us the future London. The picture entertains; we are unable to resist the prophetic peep which shows us an almost noiseless city, a freedom from much of the petty nuisance of the present, an altogether finer, cleaner capital, with no offence to eye or ear. But the artist, though at heart a scientist, succumbs suddenly to reputation and scraps his work in ruthless fashion with a hasty declaration that the early approach of the next ice age, from which it seems there can be no escape, renders such speculation merely futile.

The future of Guy's in that short space which yet remains before it becomes frozen with its parent system into the steadily advancing ice of a State health service is not without its interesting possibilities. Change is inevitable. No doubt it will be gradual and start with the minor things which mar the surface for æsthetic minds—things like green paint and pigeons. We had our suspicions when the decorators commenced their spring offensive, but they have gone and our corridors are not the less bilious; the immediate prospect is not brighter for the apprehensive patient en route for anæsthesia. There is just as much green paint as ever, and there will probably be more pigeons soon unless disaster overtakes the new nest behind the surgery. Later on our numerous transatlantic wanderers may return to mould us into a new form. Wards may be surrounded with immense laboratories, theatres fitted with nifty tables that leap into Trendelenberg at a touch, and the whole fringed with a follow-up department holding an army of sponge bags to tell the world the results.

The College, too, must keep pace. The installation of a draught beverage drawn from an arrangement resembling a gas and oxygen apparatus is but a minor improvement, in spite of its undoubted ability to produce a head on the beer instead of on the morning after. A dietetic expert must take charge of the catering and conduct valuable research—for where could one find a better experimental animal than the average resident? The fitting throughout of a glass permeable to the ultra-violet rays would be an early inexpensive step. The College windows are not large.

More than likely at a later time the whole medical side may desert to the Sussex Downs, leaving only a block for urgent surgery, and the new Out-Patient Department, which would then have room for the necessary arrangements to cope with the patient's cars. But we fear to venture further, for is not the prophet even now without parking space in his own country?

DERBY DAY is again a thing of the past. Fortunes have been won and lost, though we feel very strongly that, judging from our own experience, these illusive "castles in the air" are invariably lost. Speaking of fortunes, we must congratulate the Rag Committee and all its willing but multi-coloured helpers on the really great effort they made in the collection that day. In what was really only a Station collection, 170 boxes produced, by fair means or foul, £382 14*s.* 1*d.*, an average of about 45*s.* a box.

A POIGNANT scene—there are many on Derby Day—was witnessed in the evening, when a large crowd of Borough children awaited the return of the Residents' bus, with its attendant pennies, amid as intense an excitement as more fortunate beings in grey tall hats at Epsom earlier in the day had awaited the arrival of their "cool thou.'s." But no bus came. Many of the youth of Bermondsey must have gone to bed that night penniless and disillusioned, aware only of the fickleness of men in general and medical men in particular.

AMERICA is well known for her acquisitiveness. Year by year something valuable is carried away across the Atlantic. And now Sister Clinical is going. By the time this appears in print Miss Hawes will have left Clinical and Guy's and will shortly leave for the States. She takes with her, we have no hesitation in saying, the very best wishes of all who have worked with her in Clinical or elsewhere.

ON Sunday next, June 17th, at 2.30 p.m., the West Side Country Club at Ealing will be the scene of an Homeric encounter, when stars from two spheres will mingle to form a constellation which will be positively dazzling to the spectators and, we hope, profitable to Guy's. In other words, many well known actors and actresses, with equally famous lawn tennis players, are taking part in a lawn tennis match, the proceeds of which are to go to Guy's. This combination of stage and court can hardly fail to produce a thoroughly entertaining afternoon. Particulars will be found in the notices posted in the College and the Colonnade. We understand that those taking part in the match include, from the stage, Miss Fay Compton, Miss Edna Best, Miss Marjorie Gordon and Miss Marjorie Clarke, with Sir Gerald du Maurier and Messrs. Billy Merson, Owen Nares and Harry Welchman. The tennis players—we cast no reflection at the tennis ability of the stage!—include Miss Betty Nuthall, Miss Eileen Bennett, Mrs. Lycett and Miss Gwen Sterry, with M. Cochet and Messrs. P. D. B. Spence, C. H. Kingsley and R. Lycett. The Mayor and Mayoress have expressed their intention of being present, and it is hoped that the many people known to Guy's will include Sir Alfred Fripp (one of the prime movers in the organisation of the match), Mr. and Mrs. Eason and Mr. and Mrs. R. P. Rowlands. Nurses from Guy's will aid the chorus from Drury Lane in selling programmes and dispensing tea. Finally, we have been asked to point out that the Club is easily reached from Ealing Broadway Station, from which it is only half-a-mile distant.

WE have been asked to announce that the Inter-Hospital Swimming Gala—a pleasing variation on the well-worn "Aquatic Sports"—will be held on Tuesday, July 3rd, at the Bath Club. Applications for tickets should be made to the Hon. Secretary of the Swimming Club, Mr. O. M. H. Jones.

Notice.

FOURTH YEAR'S PRIZE IN DENTAL SUBJECTS

OPEN to Students who have studied in the Dental School of Guy's Hospital for not more than four years (including a 2 years course of Prosthetic Dentistry), and to those Students who have studied in the Dental School of Guy's Hospital for not more than two years, where their course of Prosthetic Dentistry has been completed elsewhere.

In both cases the candidates must not have studied at any other Medical or Dental School prior to the commencement of their Dental Studies at Guy's Hospital, except with regard to the courses of Prosthetic Dentistry, Chemistry and Physics.

Subjects

DENTAL SURGERY

OPERATIVE DENTAL SURGERY and

DENTAL BACTERIOLOGY

The Examiners, at their option, may hold a written or viva voce examination, of which due notice will be given, for the purpose of more thoroughly testing the comparative merits of the candidates.

Entries for this Examination close on *Tuesday June 19th*, 1928.

T. B. JOHNSTON,
Dean.

Intra-Thoracic Tumours.

A Lecture by Dr. A. H. Douthwaite, M.D.

GENTLEMEN, — The subject of intra-thoracic tumours is too vast to cope with fully in one lecture, so we shall disregard the uncommon benign forms, and also all growths penetrating the thorax from without, and confine ourselves to malignant neoplasms originating in the chest or arising there as secondary deposits to growths elsewhere.

Although it is usual to divide such tumours into mediastinal and pulmonary, yet clinically this is of little value because it is impossible to decide upon the site of origin of the disease, which characteristically spreads regardless of natural boundaries. Actually, lympho-sarcoma and Hodgkin's disease are the common types of primary mediastinal tumour, whereas, in the lung, carcinoma is the usual form, arising almost always in the bronchial epithelium.

If now you consider the clinical histories of these cases generally, you can divide them into six classes. First, there are those with no signs and no symptoms. Such are invariably secondary to growths elsewhere. For example, a malignant growth in the testis may give rise to massive, but scattered, deposits in the lungs which show no signs of their presence during life.

Secondly, there is the type presenting marked signs, but no symptoms. Here, again, this is usually secondary to an extra-thoracic growth, and one discovers signs of consolidation unassociated with cough or other symptom.

The first two groups are clearly of no importance to us, so we will pass on to the third type of pronounced symptoms with no signs. As an instance, you may examine a patient time after time in the attempt to elucidate the cause of a persistent cough, and yet find nothing. Ultimately, with the expansion of the growth, the diagnosis becomes apparent, but the inability to detect a small nodule tucked away in the mediastinum is no reflection on your care.

A fourth class is formed by those cases presenting themselves for the first time with all the signs of a pleural effusion. The condition of the underlying lung is masked by the fluid, and until this is withdrawn no certainty can be expressed as to the nature of the disease.

The fifth—most interesting though uncommon class—may be described as the pulmonary type. By this I mean cases in which the signs and symptoms are purely pulmonary, but in which they are in no way characteristic of growth. For instance, asthma or emphysema may be the outstanding features, the latter being due to partial obstruction of the bronchi by the tumour. Again, for many days it may be impossible to distinguish between acute lobar pneumonia and the rapid infiltrating form of cancer, which is accompanied with high temperature, rigors and herpes.

Finally, there is the obvious mediastinal type, giving signs and symptoms clearly referable to pressure on the neighbouring organs.

Symptoms and Signs of Mediastinal Tumour—

Remember that these are due almost entirely to the pressure of the growth on surrounding structures, and can, therefore, be deduced if you recall to mind the grosser details of the anatomy of the thorax. Taking the respiratory system first, many important changes may occur. Thus, the voice may be rendered hoarse, or attacks of intermittent aphonia occur associated with involvement of the recurrent laryngeal. Cough is the commonest and most important symptom of mediastinal or pulmonary tumour, and is characteristically hard, ineffective and exhausting. If there is recurrent laryngeal involvement, the sound produced is clanging, unless there is complete paralysis when it becomes husky. If the cough is due to pressure on the trachea, stridor may be present, and muco-purulent sputum is expectorated from time to time. With involvement of a bronchus, over-distension or complete collapse of the corresponding lung will take place, depending on the degree of obstruction. I cannot too strongly urge upon you the importance of suspecting growth in elderly people with persistent cough, unaccompanied by physical signs. Remember that an examination of the larynx may be invaluable in pointing to the diagnosis.

Dyspnœa is another important symptom which may take various forms. Thus, it may come on quite suddenly in the form of an asthmatic spasm, or it may develop insidiously, leading, after many months, to orthopnœa, which renders life intolerable on account of interference with sleep. In the earlier stages the shortness of breath, if associated with cyanosis of the face, may mislead you into suspecting myocardial disease. Again, there is the acute dyspnœa associated with vena caval obstruction—this we shall discuss more fully later—and, finally, urgent dyspnœa, followed by death in a few minutes, has been produced by the

sudden plugging of a greatly narrowed trachea by a portion of dislodged mucus. So much for the respiratory difficulties.

Let us now consider the spine and the various nerves which may be involved in the morbid process. The spine is not commonly involved, but occasionally erosion of the bodies takes place, giving rise of severe boring pain. Paraplegia may arise from direct encroachment on the cord or from secondary deposits. As an example of an exceptionally difficult case of mediastinal tumour, let me describe to you a patient who was brought to this hospital some years ago. She was a child of two years of age, brought in unconscious and with high temperature. The history was that she had been perfectly well until two days before admission, when she complained of pains in the legs, and soon became unconscious. On admission she had flaccid paralysis of the legs and a distended bladder. A lumbar puncture was done, and the cerebro-spinal fluid showed a great increase of albumen and lymphocytes. A diagnosis of anterior poliomyelitis was made. In a few days the child recovered consciousness. The lower half of the body was completely paralysed, but as far as could be ascertained sensation was but little impaired. Six weeks later we did another lumbar puncture and drew off straw-coloured fluid, containing a large amount of albumen, normal number of lymphocytes, and which coagulated on standing. Fluid of this type has been described by Froin, after whom the syndrome is named, and is produced by cutting off of the lower subarachnoid space rom the circulating cerebro-spinal fluid. Fluid withdrawn from the cisterna magna was, if I remember correctly, normal. Now, occasionally adhesions of the membranes do occur in infantile paralysis, and so the case was still regarded as such. To cut a long story short, the patient died six months later, and was found to have a mass of sarcoma in the mediastinum, with deposits scattered throughout the body. I hope you will never encounter such a case in practice, but it shows the importance of being on the lookout for a revision in diagnosis.

In other cases there may be involvement of the nerve roots with girdle pain.

Thus, a man came to me two years ago shortly after his return from a long sojourn in Bagdad. He complained of shooting pains, which started in the back and passed round one or both sides of his chest. Occasionally they seemed to shoot from front to back. They were very severe, but lasted only for a few minutes and passed off, leaving the skin tender for half an hour or more. This had been coming on for three months and was accompanied by no other symptom. On examination one found that he was slightly wasted and had a moderate degree of secondary anæmia. No other signs were detected. About a month later I saw him again, still complaining of recurrent pain, and this time looking definitely ill. On this occasion one new sign presented itself, namely, a hard discrete gland above the inner end of the right clavicle. One's suspicion of Hodgkin's disease was, of course, aroused, and the gland when removed proved to be definitely lymphadenomatous. This case is instructive in showing how one symptom alone may be the only one to go on for many weeks, and yet a great deal of mischief exist in the posterior mediastinum.

One other case I want to describe in dealing with pain due to nerve involvement. A man came to this hospital some years ago complaining of shooting pains in the right side of the abdomen. It had been troubling him off and on for three or four weeks. He had no cough and no dyspnœa. On examination one found diminished air entry at the right base with diminished voice sounds. No other signs were discernible, but an X-ray showed a large pyramidal mass apparently in the middle of the right lower lobe. This proved on operation to be a chondro-sarcoma arising from the spinal column and pushing its way into the lung. I have perhaps given you some rather rare cases to consider, but it has been done with the object of showing you the extreme importance of carefully investigating any symptom, no matter how negative your findings may be at the commencement.

Pain referred to the branches of the brachial plexus is not uncommon, and is frequently associated with œdema of the corresponding arm. I have already mentioned the symptoms associated with involvement of the recurrent laryngeal nerve, but I will just mention two other important nerves to consider, namely, the intercostals, which, if involved, may give rise not only to severe pain, but also herpes; and, of greater importance, the sympathetic trunk. Encroachment on the latter, by no means uncommon, gives rise to ptosis and retraction of the eyeball, together with diminished sweating on that side. Before leaving the question of nerve involvement, let me remind you of how a thoracic aneurysm may give precisely similar signs due to pressure on the recurrent laryngeal and sympathetic.

Passing on now to the heart and large arteries, I should mention that these do not, as a rule, give important signs. The heart may be displaced, though this is uncommon, but if you find a downward displacement of this organ the sign is a suggestive one. Occasionally it is pressed forward against the chest wall and greatly flattened out.

In nine cases out of ten the position of the heart will give you no help whatever. The great vessels, owing to the strength of their walls, also show but little alteration, even if the chest is largely occupied by growth. Very rarely has a growth produced retardation of the pulse on one side.

When we come to consider the veins, quite another picture presents itself, owing to their easily collapsible nature. Probably the most important sign of mediastinal tumour is that of venous obstruction, and the vessels usually affected are the superior vena cava and innominates. The result of this pressure produces an appearance in the patient so startling that one can never forget it. A man was brought into Guy's five or six years ago gasping for breath, eyes bulging, conjunctivæ suffused, with intensely cyanosed face, swollen neck and arms, and blue finger nails. The rest of the body appeared perfectly normal. On examining him one found his jugular veins distended, and they did not collapse on inspiration. In the chest there was a large area of dulness at the upper portion of the sternum, where an impulse coincident with the heart beat could be felt. Was this a case of thoracic aneurysm or of mediastinal growth? That man 24 hours before was apparently in good health—he had no cough and no noticeable shortness of breath. The suddenness of the onset was regarded at first as suggestive of aneurysm, but there was no tracheal tug, the pulses were equal, the vocal cords moved normally and there was no diastolic shock. The outstanding sign was venous obstruction, to such an extent that he looked like a man semi-strangulated. The weight of evidence, therefore, was in favour of growth. He died the same night, and it was found that a mass of lympho-sarcoma occupied the mediastinum and surrounded and compressed the superior vena cava to such a degree that one could only pass a small probe through the lumen. His mental attitude on admission was interesting, in that he appeared quite happy, regarding the whole affair much as a joke, and had not the slightest idea of the seriousness of his state. I have noticed since this that such patients with extreme cyanosis never realise the gravity of their condition.

One other case with reference to venous obstruction I will mention. A woman came to me complaining of sleeplessness which had commenced some five weeks ago. When she did eventually get to sleep she was disturbed by dreams of an active character, in which she was always rushing about in a purposeless manner or being chased by some individual. This highly active type of dreaming is rather reminiscent of that which one gets in cases of cerebral tumour. No doubt this could be ascribed to the interference of the return of blood from the heart. On examining her closely I noticed two things. One was that the left side of her face was cyanosed; the other that the left jugular vein did not collapse fully when she took a breath. This raised suspicions, and on examining the chest a diminution in the movement of the left side was observable. As the diagnosis was very doubtful I arranged to have her X-rayed, but before this could be carried out she had an acute attack of shortness of breath, and I found her with blue face, swollen neck, blue finger nails and, in fact, an obvious case of vena caval obstruction. She died the same night, and was found to have a mass of growth in the chest.

One should, I suppose, mention the œsophagus as a structure which may give rise to symptoms, but unless the growth actually starts here, interference with deglutition is uncommon.

The general symptoms of these growths are of little importance. Loss of weight is seldom striking; pyrexia may be present and is probably due in such cases to interference with the free passage of air in and out of the lung, and consequent infection behind the obstruction.

What are the signs of mediastinal and lung tumours? Clearly, these must vary so enormously according to the position of the growth that it would be impossible to give a comprehensive account in the time at our disposal. I shall, therefore, only mention certain important findings which may occur, but you must remember that the true signs of tumour may be masked by changes in the neighbouring lung tissues, for instance, emphysema.

On inspection one may often diagnose a case fairly accurately if one encounters venous obstruction with swelling of neck and arm. A difference in the size of the two sides of the chest, or more commonly, a difference in their excursions, may also be noticed. Palpation is most important from the point of view of searching for glands, particularly above the clavicle or in the axilla. Vocal fremitus may be increased over a tumour, and this area may give the classical signs of consolidation. On the other hand, it is more common to get negative signs, because the corresponding bronchus is usually filled with growth. By negative signs I mean absent voice sounds, breath sounds and fremitus, but definite dulness.

With percussion a large superficial area of dulness, particularly if it encroaches on the middle line of the chest, is suggestive of growth. Of greater importance is the hard wooden-like feeling imparted to the finger by a growth near the surface.

On auscultation the heart sounds may be transmitted over a wide area by the growth, and a sharp knocking sound is occasionally heard with each heart beat. Adventitious sounds are generally absent.

Finally, we must consider the by no means uncommon form of pulmonary growth which gives all the signs of pleural effusion. Thus, if the growth extends into the lower lobe of the lung, and if its extension into the mediastinum displaces the heart to the opposite side, it may be impossible to be sure whether you are dealing with fluid or neoplasm. It is often necessary to use an exploring needle to settle the doubt, but the following points should be borne in mind—a pulmonary growth usually starts at the root and spreads downwards and outwards, so that the area of dulness may be found to be limited below by a band of normal lung resonance. Again, as the growth does not reach the surface with equal rapidity, one may find on careful examination scattered areas in which breath sounds are audible and in which resonance has not been abolished.

This X-ray is from an old man of 68, from whom I withdrew several pints of pleural effusion and then found dulness to persist over the entire chest with the exception of a few islets which were resonant and where breath sounds could be heard. There is no doubt that the lung is a mass of growth, and you should observe that the opposite side shows no sign of disease, which is one point strongly against the possibility of tubercle being the cause of the fluid accumulation.

There are a few points to be considered in dealing with growths of the lung as opposed to those primarily of the mediastinum. Cough is again the chief symptom, but hæmoptysis and pain in the chest are particularly common. Recurrent hæmoptysis in the absence of fever is a very suggestive sign. Asthmatic attacks are also common occurrences in lung growths. Thus, in the case of an old lady of 68, whom I saw some time ago, she complained of nocturnal asthma for some months, and in observing an attack there was nothing to distinguish it from true asthma. The late onset of such symptoms was, of course, a point to raise suspicions, and eventually signs of consolidation, spreading downwards from the right lung root, made their appearance. Later, a blood-stained pleural effusion developed, and pointed to the diagnosis of new growth. This proved to be a carcinoma of the bronchus.

To give you an idea of the various complicated signs which may be produced by bronchial growth, I will describe to you the case of a man of 60 years of age who came to Out-Patients here. He complained of cough and some pain in the chest of 5 or 6 weeks standing. On examination there was found dulness over the left lower lobe, with absent vocal fremitus, but well-marked breath sounds and bronchial breathing. The upper lobe on the left side was tympanitic and the breath sounds enfeebled. The heart was displaced to the left. There was no history of previous illness. The diagnosis was not made until the case reached the post-mortem table, when a growth of the bronchus was discovered causing complete obstruction of the lower division and consequent collapse of that lobe and partial obstruction of the upper division with the production of over-distension.

Differential Diagnosis—

As regards differential diagnosis the most important condition to remember is aortic aneurysm. The points against aneurysm and in favour of growth are extensive—superficial dulness, marked venous obstruction, which is very rarely produced by aneurysm, absence of diastolic shock and tracheal tug, presence of effusion and a negative Wassermann.

The next most important condition which may be confused with growth is tuberculosis. Examination of a pleural effusion seldom helps. Limitation of signs to one side of the chest is strongly in favour of growth, as is also the absence of temperature in the presence of hæmoptysis. The sputum, of course, may be of value, but do not expect to see the so-called "red currant jelly" appearance, as this is actually very rare with growths. With dulness, due to tuberculosis of the lung, are associated bronchial breathing and rales, but if to growth there are usually absent breath and no added sounds.

Other conditions such as mediastinal abscess, gumma and syphilitic stricture of a bronchus may have to be considered, but so uncommonly that I shall do no more than mention them.

Finally, I should like to make reference to special methods of investigation, and I have left this to the end, because this is the right position for them when dealing with a patient. Do not be in a hurry to do blood tests, needle the chest or X-ray the patient. These investigations are often useful, sometimes invaluable, but if you develop the habit of using other people's skill for the arrival of a diagnosis you will do yourself much harm, and, incidentally, put your patient to considerable expense, for which he will not thank you. If you have to explore the chest I urge you never to use an exploring needle without first anæsthetising the skin and underlying tissues. It is quite untrue to say that the same amount of pain is produced by a fine hypodermic needle as by the large bore aspiration needle. Nothing is more important than

to realise that you must save your patients pain whenever possible. This may appear to be a small matter, but it is of great importance in general practice.

In conclusion I should mention a very valuable aid to diagnosis of growth in the lung, particularly as it helps one to decide on the limits of the disease, and, consequently, on the nature of treatment. I refer, of course, to the induction of a pneumothorax. This having been done, a very clear outline of the growth is to be seen in a radiograph, and it may be possible to advise surgical removal if no glands are seen at the lung roots.

I hope that I have shown you how alert you must be when considering the possibility of growth in the chest, and of what enormous importance it is that you should master the physical signs of the lungs, so that you may understand the occasional apparent contradictions which are presented by an invading cancer.

The Role of Infection in the Ætiology of Bright's Disease.

Treasurer's Prize Essay by G. W. Rake, Esq.

(Concluded)

THESE considerations lead up to the suggestion that the renal changes may in some degree be due to an acidosis of the blood or lowered blood-bicarbonate, such as is known to complicate the majoruty of infections—perhaps more particularly those produced by the streptococcus. The arguments for and against this theory are many, but are altogether outside the scope of this paper.

Although the focus of infection is usually the tonsils—as in elimination nephritis—yet it may be found as pharyngitis, rhinitis, otitis, endocarditis or infected wounds, also erysipelas or scarlet fever. It has been pointed out above that in scarlet fever both focal elimination and diffuse glomerular nephritis may occur, the former during the first fortnight and the latter from the third week onwards.

It must not be forgotten that infection plays a further part in the production of this condition by acting as a predisposing factor. Amongst the infections which may act in this way may be mentioned measles, mumps, diphtheria and rheumatic fever, and also the febrile attack of a common cold, all of which precede the disease in such a percentage of cases as to demand recognition.

The relationship of those cases which follow Weil's disease, to the streptococcal type which has just been described, is doubtful, but it would appear that one is dealing with a condition in which the spirochæta ictero-hæmorrhagica takes the place of the streptococcus as the exciting cause (Stokes, Ryle and Tytler.[15])

It should be understood that the subacute and chronic forms of diffuse glomerular or glomerulotubular nephritis are only later stages of the acute disease and have no claim to a separate ætiology. In most cases the appearance of the stages can be ascribed to constantly recurring damage of the kidneys, due to recrudescences of the acute infection in the primary focus. Unfortunately, in the diffuse type the removal of septic foci has not the uniformly good results to be found in the elimination nephritis, which rarely tends to become chronic.

Some additional evidence of the relationship between streptococcal infections and glomerulotubular nephritis is found in the effects of vaccine treatment in the course of the disease. There would seem to be no doubt that autogenous vaccine therapy following on removal of the focus of infection will often help to clear up a case that is threatening to become chronic. Moreover, the administration of the vaccine, at least in those cases in which any benefit is to occur, is accompanied by an exacerbation of all the symptoms.

It was impossible to obtain figures of any value as to the relationship between infection and diffuse glomerular nephritis from an examination of either clinical or autopsy records at the hospital. This was due to a failure to separate out this disease as a clinical entity from elimination nephritis on the one hand or from the nephroses on the other.

IV—NEPHROSIS OF PREGNANCY

Next to be considered is the group of Bright's Disease in which the primary change is seen in the tubules, and in which the lesion is one rather of degeneration than of inflammation, namely, the nephroses. Of these the first is the "pregnancy kidney," which may be briefly dismissed for the purposes of this paper.

The ætiological factors in its production are bound up with the as yet ill-defined toxæmias of pregnancy, and any part that infection plays in the ætiology is at the most that of an indefinite predisposing factor.

V—LIPOID NEPHROSIS

This may occur either as a separate entity or in association with either diffuse glomerular nephritis or amyloid kidney. It is usually stated that the pure form of the disease is uncommon (Elwyn[7]), and this is, no doubt, true in so far as the severe cases are concerned. But there can be no question that, in its milder forms, it is far from uncommon, since it complicates many cases of severe or long-standing pyrexia—*i.e.*, those in which albuminuria occurs as a transient symptom. It is a well-known fact that microscopical examination of kidney sections in patients dying during a febrile illness will, in most instances, reveal greater or less degenerative changes in the renal tubules. That this degeneration tends in general to spontaneous cure does not alter the fact that it is but a mild phase of the more advanced stage usually recognised as lipoid nephrosis.

Thus, as an ætiological factor in this condition infection plays a very important part, acting as the exciting rather than the predisposing factor, and probably producing the changes in the tubules by means of toxin or toxins circulating in the blood-stream. Or, in the words of Aschoff,[4] by means of "infective toxic damages affecting the whole organism."

The more advanced stage of the disease in an uncomplicated state, as has been mentioned, is of rare occurrence. It occurs typically in association with syphilis, usually during the secondary stage of the disease (see Dowling)[16], but it may also be found in cases of tuberculosis and chronic suppuration quite apart from its appearance in these diseases in association with amyloid disease. The "acute tubular nephritis" which is seen not infrequently at post-mortem is a diffuse glomerulo-tubular nephritis, in which the tubular damage tends to overshadow that of the glomeruli.

Pure lipoid nephrosis may occur in connection with diphtheria.

Once again examination of autopsy and clinical records proved of little use in attempting to obtain statistics concerning the occurrence and ætiology of lipoid nephrosis. Without, however, quoting any figures, it may be stated that the impression gained has been that this type of Bright's Disease is more commonly found in connection with pneumococcal infections—pneumonia and empyema—than with other infections. Thus, it might seem that tubular damage is more essentially a pneumococcal affection, while streptococcal infections tend to affect the glomeruli.

VI—AMYLOID NEPHROSIS

Amyloid disease of the kidney, although excluded from the inflammations of the kidney by Rokitanski—quoted from Elwyn[7]—would seem to fall into line with the definition of Bright's Disease as already given, and is included by most modern writers. Indeed, it would seem likely that the second case in Bright's first collection of cases[1] was of this nature. It will, therefore, be discussed here.

The ætiology of amyloid disease of the kidney is the ætiology of the disease in general. The various infections described below act as exciting factors and not merely as predisposing to the condition; the renal lesion is a direct sequence of the chronic infective process.

The most common causes of amyloid disease are: (*a*) Chronic suppuration, especially empyemas or osteomyelitis, (*b*) chronic caseating tuberculosis, especially of bone or intestine, and (*c*) syphilis, whether congenital or acquired. Other rare cases to be found in the literature are chronic malaria, gonorrhœa or dysentery.

Seven cases of amyloid kidney—as part of general Amyloid disease—occur in the autopsy records of 1916 to 1922. They were divided as follows:—

Tuberculosis (lung)	3 cases
Chronic Empyema	2 cases
Congenital Syphilis	1 case
Ulcerative Colitis	1 case

VII—BICHLORIDE NEPHROSIS

As a last type of nephrosis mention was made of the "bichloride kidney" or "necrotising nephrosis." This condition when seen clinically is generally due to poisoning with corrosive sublimate and is of rare occurrence. It is, however, commonly produced experimentally in animals by means of metallic poisons such as uranium. The characteristic feature of the condition is the intense necrosis of the cells of the convoluted tubules which is to be seen on microscopical examination.

The condition is only mentioned here because in certain fevers, especially cholera (Munk[17]), but also in diphtheria and typhoid, a similar tubular necrosis is occasionally observed. The condition is doubtless produced during the elimination of the toxins of the disease, in the same way as it is caused in the experimental animal during the elimination of the metallic poisons.

VIII—ACUTE INTERSTITIAL NEPHRITIS

True interstitial nephritis is a rare disease and, as has been said before, must not be confused with the replacement fibrosis found in the kidney as a result of long-standing damage or arteriolar disease, which in the past has received the name of chronic interstitial nephritis.

True interstitial nephritis is an acute process found occasionally in the course of complicated diphtheria (MacCallum[18]); less commonly in scarlet fever and streptococcal infections of tonsils and pharynx. It is characterised by the focal distribution of the lesions. These are found to

consist of an infiltration of the stroma of the kidney with mononuclear cells—lymphocytes and plasma cells—and with occasional polymorphonuclear leucocytes.

IX—ARTERIO-SCLEROTIC NEPHRITIS

This need receive little attention in this paper. The ætiology of this condition is that of arterio-sclerosis in general, and although there is still much doubt as to what actually are the causative factors in arterial degeneration there can be little doubt that infection plays, at the most, a very minor part.

Unconvincing attempts to find some ætiological basis for the disease in acute or chronic infective processes have been made by Wiesel,[19] Klotz[20] and Thayer[21] amongst others. Ophuels[22] with a series of 500 cases makes a claim for chronic septic infections of the rheumatic type. Faber[23] favours a tuberculous ætiology, while Fahr[24] attempts to show that syphilis plays an important part in the more progressive form of the disease, affecting chiefly the smaller blood vessels and sometimes referred to as malignant arteriolar-sclerosis.

However, a careful sifting of the evidence in the literature can hardly fail to impress the reader that no convincing claim for an infective ætiology, in arterio-sclerosis of the non-syphilitic form, has yet been made.

X—ASCENDING NON-SUPPURATIVE NEPHRITIS

Finally, there are the cases of ascending nephritis which, as has been pointed out, it is thought should be considered in any paper on Bright's Disease. In these cases there are two major ætiological factors: (*a*) An infection of the lower urinary tract, and (*b*) some degree of obstruction to the urinary flow. Under such conditions there can be produced a condition of the kidneys which, at least microscopically, is identical with that seen in a case of long-standing diffuse glomerular or arterio-sclerotic nephritis in which replacement fibrosis has occurred.

In the autopsy records from 1916 to 1922, 22 cases of this nature occurred. In each there was some degree of infection :—

Stricture	3 cases
Adenoma Prostate	8 cases
Carcinoma Prostate	4 cases
Cystitis	3 cases
Recto-Vesicle Fistula	1 case
Papilloma Vesicæ	1 case
Pyelitis	1 case
Renal Calculus	1 case

There can be little doubt that in these cases the process is one of ascending infection of the tubules, consequent degeneration of the cells and, finally, replacement fibrosis with the production of scarred or " contracted " kidneys.

CONCLUSION

An attempt has been made to show the ætiological relationship of infection to the various types of Bright's Disease, each of these types being treated separately.

It will have been observed that, with the exception of pregnancy nephrosis and arterio-sclerotic nephritis, an infective ætiology has been described in every case, and the infections in general play a direct part—*i.e.*, as exciting cause—in the production of the disease.

A further point which emerges from the material of this essay is the importance in the ætiology of streptococcal infections. With the possible exceptions of the nephroses, in which pneumococcal infections may predominate, the streptococci play the major part in every type of Bright's Disease. One is led to assume that the toxic changes produced in the blood by streptococcal infections find in the kidney, and especially in the glomeruli of the kidney, a site of election.

It must, however, be admitted that, with the exception of embolic nephritis (*I*) and possibly elimination nephritis (*II*) there exists no certainty as to the method by which the renal damage is actually produced. One can recognise that a relationship exists between the infection and the disease, but one is unable to trace the intermediate steps in that relationship.

Much work remains to be done in throwing light on these intermediate steps, and until such work is carried out, the knowledge of the disease will be incomplete, and treatment, remaining to some extent empirical, will suffer accordingly.

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Aphorisms.

DURING the recent excavations in the neighbourhood of St. Thomas's Street, a patient was brought into the Surgery at Guy's Hospital suffering from an injury caused by a large metal box, similar to those used for carrying "stock," which had been used as part of the foundations of the road, and which, becoming dislodged, had fallen on his foot. As proof of his injury—and because there was not any great further proof—he had brought the box with him in the ambulance. Inside the box was found an Out-Patient Letter bearing Sir Astley Cooper's name, on which was written Rep. Liq. Par. (28). On the reverse side of the page was found some incomprehensible writing which, after long and careful investigation, was interpreted as follows :—

"(1) Life is short; the curriculum long; examiners treacherous; information fallacious; fees exorbitant; diplomas valueless.

"(2) Of taking case-histories there is no end, and a superfluity of lectures causeth ischial bursitis.

"(3) The art consisteth in three things—the disease, the patient and the house-physician.

"(4) The physician is a frequent worshipper in the temple of the dead, but the surgeon's memory for mortal cases is ephemeral.

"(5) A scientific operation requires four conditions: Accurate diagnosis, carefully planned details, persevering technique and patient nursing.

"(6) The successful practitioner understands four things: The digestions of infants, the nervous organisation of women, the infirmities of age and the workings of the Workmen's Compensation Act.

"(7) The most acute cases are those which are suitable for the surgical wards; the next most acute are suitable for the septic wards; after these come cases suitable for Clinical; then those suitable for the medical wards; cases more chronic than these are suitable for another hospital; and if there be any others yet more chronic than these, they are eminently fitted for O.P.O. Out-Patients.

"(8) General practice is harassing, specialism lucrative, midwifery laborious and ambulances disappointing.

"(9) Dentistry is golden; tonsillotomy sanguinary; otology pestiferous; pessary practice debasing; pediatrics glutinous; orthopædics entertaining; and genito-urinary work ——."

Here the writing comes to a sudden end, for the paper is torn; which is, perhaps, better from every point of view.

LAZAROSUS LABORIOSUS.

The Launching of "Windflower."

THE yacht *Windflower*, which has been built by Kemp for Dr. Herbert French, was launched at Emsworth on Saturday, May 19, amid scenes of great enthusiasm.

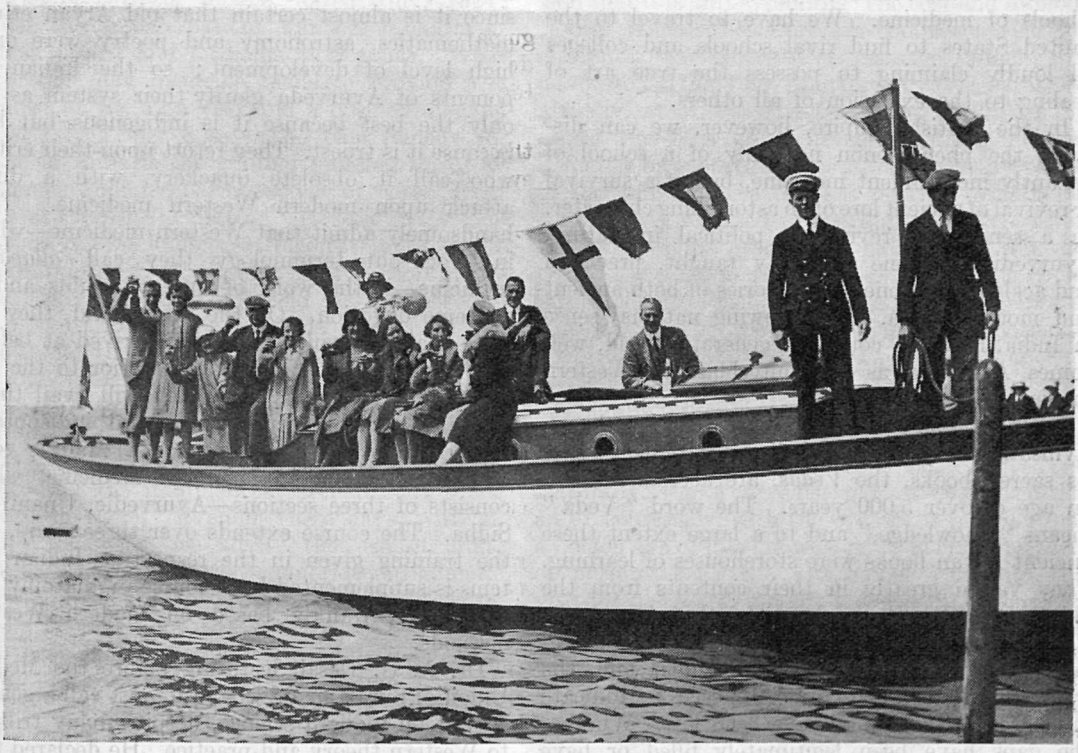
Dr. French had entertained a jolly little party at the "Dolphin" in Chichester on the previous evening. Among those present known to Guy's were Mrs. French and Miss Anne French, and Messrs. Post, Garland, Marshall and Palmer.

The party descended upon Emsworth on Saturday morning, and found a large proportion of the people of that town gathered by the waterside, and the dockyard and ship covered with an amazing variety of flags and bunting.

Mr. and Mrs. Ogilvie had come down, bringing Morris with them, and Ettles also turned up, thus forming a very strong Guy's contingent. Whilst the final preparations for the launching were being made, everyone boarded *Windflower* and thoroughly examined every inch of her, being much impressed by the splendid wood and workmanship, which could not escape even the most inexperienced eye.

Soon everything was ready, and the shores and wedges were knocked away. A bottle of champagne, suspended by a ribbon from the bows, was deftly broken by Miss French, and the ship gathered way. A stirring bugle call was sounded and the yard was filled with ringing cheers as *Windflower* entered the water and for the first time felt it gently lapping her sides.

The clicking of cameras having died down somewhat the company retired to the "Crown" for



The Launching of "Windflower."

lunch, when, after the loyal toast, the toasts of *Windflower*, her designer and builder were drunk. Telegrams wishing success to *Windflower* were received from Messrs. Parker Tupling and Nesbitt Wood.

My recollection of the luncheon is rather hazy, but I have a distinct impression that Dr. French offered everyone a magnum; champagne was certainly a predominating feature, one must confess.

After lunch, Dr. French's party embarked on a motor boat and went down Emsworth Channel to a sandbank near the mouth, spending the rest of the afternoon gathering cockles.

The celebrations were continued at Newdigate until a late hour by the expenditure of much gunpowder disguised by Mr. Brock, and some excitement was caused by rockets getting out of control.

We retired to bed very weary indeed, glad that the next day was Sunday and that there was no need to rise early.

For the benefit of yachtsmen *Windflower* is a yawl of 21 tons, with Bermudan rig. She has a Brooke auxiliary engine, which is concealed beneath the cockpit floor and completely isolated from the cabins, of which there are two. She has a large forecastle and can sleep six in comfort. The workmanship and timber in her are superb, and witness to this is the fact that she made hardly a bucketful of water when launched.

Mr. Hart was her designer, and he has produced a very fine yacht.

Ancient Medicine of India.

By Ernest H. Griffen, D.S.O., M.C., M.R.C.S., L.R.C.P.

THE fact that a committee has recently been appointed in Ceylon to report on the practicability of providing Government assistance in the training of practitioners of the indigenous systems of medicine, reminds us that in this country we are remarkably free from competing schools of medicine. We have to travel to the United States to find rival schools and colleges all loudly claiming to possess the true art of healing to the exclusion of all others.

In the British Empire, however, we can discover the phenomenon not only of a school of defiantly independent medicine, but of a survival or revival of ancient lore of an astonishing character. In a sense this revival is political in nature. Ayurvedic medicine is to-day taught, practised and acclaimed as one of the glories of both ancient and modern India. The growing national sense in India, hardly a couple of generations old, welcomes Ayurveda as a counterblast to Western medical science.

In India it is considered as proved that Aryan civilisation was the first of all civilisations. There its sacred books, the *Vedas*, are accredited with an age of over 5,000 years. The word "Veda" means "knowledge," and to a large extent these ancient Aryan books were storehouses of learning. They varied greatly in their contents from the oldest, the *Rig-Veda*, down to the *Ayur-Veda*. The greater part of the Aryan literature disappeared during the various invasions, and the fragments that remain are supposed to indicate immense treasures that have been lost. Whether the gaps have been legitimately filled or have been supplemented by comparatively modern learning, it is beyond our power to decide. Ayurveda is, at any rate to-day, a consistent and connected whole. It needs little credulity on the part of Indians to believe in an ancient system of highly learned physicians and gifted professors, since it is almost certain that old Aryan ethics, mathematics, astronomy and poetry were on a high level of development; so the Indian exponents of Ayurveda glorify their system as not only the best because it is indigenous, but best because it is truest. They retort upon their critics, who call it obsolete quackery, with a direct attack upon modern Western medicine. They handsomely admit that Western medicine—which in worn-out terminology they call *allopathic* medicine—is the work of men of genius and of supreme devotion. On the other hand, they declare that its results have been arrived at before, and that they are faulty and inferior to the discoveries of the past. Yet they will avail themselves of anything new that is of indisputable value. Lord Goschen opened at Madras some time ago a School of Indian Medicine, which consists of three sections—Ayurvedic, Unani and Sidha. The course extends over three years, and the training given in the respective Indian systems is supplemented by a course in anatomy and physiology, frankly based on modern Western methods.

Dr. A. G. Desai, lecturing before the Medical Union of Surat, made what we must call a general assault on modern science, despite many tributes to Western theory and practice. He declared that

patients derive little or no benefit from the preparations of the materia medica. He concluded that there is something radically defective when the marvels of modern nursing, dietetics and hospital hygiene leave unrelieved and uncured patients suffering from tuberculosis, paralysis, aneurism, Bright's disease and other chronic disorders. He criticised text books which describe diseases whose actual symptoms never seem to resemble the description given, which contain grave fallacies in diagnostic methods and whose specifics rarely give the promised results. Waxing bolder, he advanced from medicine to surgery, midwifery and gynæcology, and declared that faulty diagnosis at the hands of the best practitioners is often proved on the operation table or at the autopsy, or else a correct diagnosis is attended by a hopeless prognosis. Dr. Desai seemed to approve the highly debatable value of a sort of general medical intelligence spread throughout the community. He believed the indigenous medical system provides this public enlightenment, while Western specialists deprive themselves of the assistance of the patient, whose ignorance permits disease to proceed to the incurable or fatal stage. Again, he said that the highly modernised treatment is too costly and patients shun it until their trouble is beyond cure. In support of his view he made a quotation from the *Indian Medical Gazette*, dated July, 1924: "What the Indian patient wants is a hakim at 4 annas a visit and medicine at 2 annas. What the present day medicine tends to provide is a specialist at Rs. 32 a visit and a purified alkaloid at Rs. 1*s*. 8*d*. per dose. The true remedy for disease in India is the gradual building up of an indigenous Indian pharmacopœia of those drugs which are locally available."

Naturally, one finds great inconsistencies in the presentation of such a case. The rejection of the scientifically prepared alkaloid as against the cheap, unpurified infusion reads strangely, side by side with the following: Answering the charge that the *Ayur-Veda* contained no chemistry, Dr. Desai said: "Let us see if there was no chemistry in *Ayur-Veda*. If so, the latter could not have talked of and advised the use of metals and non-metals, and the innumerable preparations to be made from them. Even in these days, with all our advancement, we advise the use of crude substances like arsenic, the perchloride and sulphate of iron, copper sulphate, silver nitrate, lead acetate, metallic mercury and so on. Can anybody deny or disregard the poisonous and highly deleterious nature of these substances on human tissues? The *Ayur-Veda* strongly denounces the use of such substances unless 'purified'—it calls this process 'Shodhana'—and chemically modified—which it calls 'Marana.' Are then our methods so crude? Nowadays there is a growing tendency to prepare organic compounds of metals for therapeutic purposes; *Ayur-Veda* has been advising it from time immemorial. If, then, there was no chemistry could all these things have been achieved? Certainly, Ayurvedic chemistry never taught that the diamond and charcoal were one and the same, but surely it did teach things useful."

We do not possess the necessary knowledge of Sanskrit to say if the Samhitas of Charaka and Shushruta forestalled us in the preparation of colloidal iron and so forth. It is, however, perfectly certain that any such sophisticated chemistry would be incompatible with a democratic materia medica and medicine at two annas.

For all that, the Ayurvedic movement deserves close attention. This resurgent medicine of the remote past challenges some of our dearest beliefs. It declares that the synthetic drugs, which are considered as the highest achievement of medical chemistry, have proved to be far less efficacious than natural ones, such as cinchona bark. It says that, in extracting alkaloids from vegetable tissues, some of the most useful portions of the plants are destroyed. It points, with a sort of malicious delight, to our flounderings from observation to observation, as, for example, the early belief that bismuth was only sedative and astringent to the digestive tract, and the later conclusion that it is anti-syphilitic. The cost and dubious results of electro-therapy are compared with the cheapness and success of massage, which was advocated in the *Ayur-Veda* for ankylosis, paralysis, atrophy, etc. . . . The treatment of disease by sound waves is an Ayurvedic method not yet disputed by modern competitors. In many places in the Samhitas the blood is referred to as being constantly circulated in the human body. Even the most illiterate of native hakims will tell you that "the pulse is due to the impact of the circulating blood." That the character of the pulse is a useful, or rather the very best, index of a patient's condition, is a well-established principle of ancient Ayurdic medicine.

There is undoubted evidence in the *Ayur-Veda* of the existence of considerable knowledge of ophthalmic and obstetrical surgical procedure. Naturally, the Ayurvedist glosses over crudities and reconstructs, with the eye of the imagination, a golden age of lost knowledge. The crude method of pushing back the cataractous lens into the vitreous he regards as only a degenerated remnant of a once elaborate operation. This may be affectionate credulity, but there remains a whole section of that ancient work, the Midhavi Nidan, actually devoted to ophthalmology. When we think that this was written thousands of years ago we cannot withhold the tribute of a mild surprise.

Fractures of the Mandible.

By J. Lewin Payne, O.B.E., M.R.C.S.Eng., L.R.C.P.Lond., L.D.S., R.C.S.

THE subject of fracture of the mandible is of peculiar interest to dental surgeons because it is one that serves to supply the widest scope to that combination of mechanical skill and surgical knowledge which forms the ideal of modern dentistry.

During the Great War some of us were called upon to treat the complicated injuries of the jaws and face which were caused by shell and gunshot wounds, but it is not with these that I propose to deal to-day. I shall confine myself to those fractures of the jaws which occur in everyday civil life.

In former times these cases did not often present themselves in ordinary dental practice; their treatment was left largely in the hands of consultants. But, with the increasing popularity of the motor car and the aeroplane, and the large number of accidents arising from these means of transport, it often happens that the dental surgeon in smaller communities is called upon to assist his medical confrere in the reduction and treatment of these injuries. Therefore it behoves all who practice our speciality to become familiar with the nature and treatment of such cases.

I propose to deal chiefly with a few vital points which call for our special attention, touching very lightly upon the ætiology, symptoms and some types of fracture. After, I shall turn your attention to diagnosis and treatment.

It has been estimated by Keen and others that fractures of the mandible are about 10 times more common than those of the maxilla. Indeed, fractures of the mandible are more common than those of any other bone of the skull, because of the exposed position which the jaw occupies, and because of its mobility.

The mandible is rarely fractured whilst the teeth are held in occlusion—unless it be by gunshot wound—for in such circumstances the jaw has the support of the head, and the brunt of the blow is transmitted through the condyle and glenoid cavity to the base of the skull, when concussion usually occurs.

ÆTIOLOGY

The majority of these fractures arise from direct injury to the jaw itself, either from a blow, a kick, a fall, or a gunshot wound. I have seen several fractures resulting from the extraction of teeth. Whilst the fracture usually occurs in the region where the injury is received, a great many are found on the opposite side of the jaw, and particularly is this the case with those situated in the canine region and at the angle of the jaw.

The complications arising from motor car and aeroplane accidents will often be greater than those produced by the more ordinary causes, excepting those of gunshot wounds. Fractures of the mandible occur more frequently in the body of the bone than in the ascending ramus. In the former situation they are nearly always compound, whereas in the ramus they are usually simple. We find fractures more often in the canine region than elsewhere. Although the length of the canine tooth may tend to weaken the bone at this spot, and was formerly thought to be the chief reason for this frequency, it is rather because the blow on one side of the chin increases the convexity of the curve in the bone, causing it to give way at this point.

SIGNS AND SYMPTOMS

The signs and symptoms are: Displacement, unnatural mobility, pain, salivation, loss of function, crepitation and œdema, and, later, foul breath. The displacement, which often leaves an irregular line of the teeth, is dependent upon the direction and force of the injury, as well as upon the muscular pull. The pain is due to injury of the nerves and to movements of the broken fragments in attempting either active or passive movements. Pain is usually felt in the injured area, but with fractures at the angle of the jaw it may be referred to the mental foramen.

Œdema follows rupture of vessels, and the consequent extravasation of blood into the tissues. Some years ago Mr. Frank Coleman called attention to this characteristic, and very important, sign of fracture of the mandible which is often overlooked. It will differentiate the injury from simple bruising and the swellings arising from contusions. A tense bluish swelling is seen in the floor of the mouth when the tongue is lifted up. This sign is specially valuable in clinching the diagnosis where there appears to be no displacement nor deformity, but it is only during the first week after the injury that it will be a guide, for the effused blood soon becomes absorbed.

If the patient is left untreated for 48 hours the breath is almost invariably foul, and has the characteristic odour associated with necrotic tissues. With great displacement there may be inability to close the mouth.

TYPES OF FRACTURE

In single fractures on one side of the middle line the common displacement is for the smaller fragment to be drawn inwards and upwards. This malposition is due to the pull exerted by the masseter and temporal muscles, which draw the fragment upwards; and to the internal pterygoid and the mylohyoid muscles which draw it inwards.

A fall on the chin may lead to a fracture in the neighbourhood of the symphysis, or at the neck at one or both condyles. A vertical fracture *through the symphysis* itself is extremely rare in adults. Out of some hundreds of cases of fracture of the mandible that I have seen, I can recall only one, and that occurred in a child aged 4. Many cases described as being at the symphysis, on closer examination show that the line of fracture is diverted to one or other side of the bony prominence.

When a vertical fracture occurs in the incisor region there may be little or no displacement, because there is an equalisation of the muscular pull. In most cases, however, a slight V-shaped space shows itself between the incisors when the mouth is opened and closed. The further the line of fracture is removed from the median line the greater will be the tendency to displacement. If, however, the fracture is between the lateral incisor and the canine on each side the middle piece gets drawn downwards and backwards towards the tongue. This is due, of course, to the pull of the digastric and hyoid muscles.

Fractures in the region of molars are accompanied by a depression of the anterior fragment and a swinging over towards the affected side. The posterior fragment will be drawn upwards and inwards, and the amount of upward displacement will depend partly upon the direction of the fracture and partly upon the presence or absence of molar teeth on that fragment and on the maxilla immediately above it. In oblique fractures the external pterygoid may cause the fragments to overlap, the lesser moving in front of the greater. In the case of fractures behind the third molar, the teeth on the fractured side usually meet, whilst a space is seen between the occlusal surfaces of those on the opposite side. It is particularly important to recognise these characteristics in order to secure the best results. Malocclusion may follow if the posterior fragment is neglected, and it is this fragment which causes trouble so often in the treatment.

With fractures of the upper half of the ascending ramus and the coronoid process there is usually no displacement, and the symptoms may be often obscure. On the other hand, fracture of the condyle may lead to considerable deformity.

Diagnosis—

The diagnosis of the existence of a fracture of the mandible is not usually difficult, but it is very important that the following conditions shall be recognised :—

(1) The exact position and direction of the fracture.

(2) The displacement of the fragments.

(3) The teeth involved in the lesion.

RADIOGRAPHS

In these days it is hardly necessary to stress the importance of taking radiographs in every case of fracture. For, even when the nature of the injury and the direction of the fracture seem obvious, one is often deceived, not only as to the teeth which are involved and the direction of the crack, but, quite frequently, a second (or even a third) fracture occurring in the ascending ramus, or elsewhere, may be overlooked. Frequently the second fracture is on the opposite side of the jaw. A satisfactory radiograph will indicate the type of fracture, locate the direction, and disclose whether there is a tooth or root in the line of fracture. Radiographs should be taken in the antero-posterior, as well as in the lateral, direction, remembering that only thus can one hope to get a correct view of the injury, which may not have been recognised by clinical examination alone.

GENERAL SURGICAL TREATMENT

When we come to the question of treatment it is important that the dental surgeon shall not lose sight of the fact that something more than the fitting and adaptation of splints is needed. First of all, the general condition of the patient must be carefully observed.

Immediately after the injury most probably he will be suffering from shock, and its phenomena may be intensified by prolonged or severe pain. Sometimes several days will be needed for recovery from the shock of the injury, and the first requisite in such cases is rest.

After a general cleansing of the mouth with an antiseptic lotion such as eusol, 5 per cent. Carrel-Dakin solution, or with hot normal saline, support and protect the jaw by means of a ready-made external splint, or a suitable bandage. Then let the patient rest, and if possible sleep for several hours.

Bandages—

With regard to temporary external support for the jaw I find the well-known " four-tail " bandage (introduced by Bertrandi in 1787) is the one which is still commonly employed. Against its use in these cases I should like to enter a protest. My reason for objecting is because the pressure exerted by this type of bandage comes upon the point of

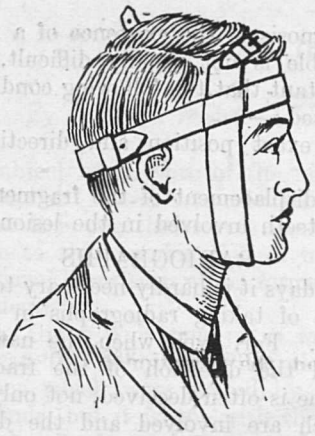


FIG. 1.

the chin. This pressure is wrong in direction and it tends to increase the displacement of most fractures of the jaw. In place of the "four-tail" bandage I recommend the "Barton" bandage, or the "Hamilton" sling. The latter is to be preferred because it supports the chin from below and can be adjusted with a fair degree of accuracy.

The "Hamilton" sling can be made with or without the leather strap which fits the chin. A simple method is to employ webbing 1½in. in width. A vertical piece extending from beneath the jaw is held by a buckle over the top of the head. The horizontal piece passes from the occiput around the forehead and it is united to the vertical portion by a V-shaped piece of webbing to which buckles are attached, as seen in the illustration (Fig. 1). Where side pressure can do no harm this is the best bandage to adopt, for it lifts the anterior part of the jaw vertically, whereas the "four-tail" and many other forms of bandage pull the chin backwards and frequently aggravate the deformity and increase the tendency to overlapping of the fragments.

In cases where swelling is considerable, or where there is an external wound requiring a dressing, an external metal support may be employed (see Fig. 2).

The surgical wiring of fragments in fractures of the mandible is usually contra-indicated, though it may be successfully employed for cases of fracture in the ascending ramus. The reasons why this method fails when applied to the body of the bone are: (1) That it is a compound fracture and the wound cannot be kept aseptic; (2) in consequence of movements the wire works loose; and (3) the space between the teeth is not sufficient to prevent the wire from damaging the periodontal membrane. If surgical wiring is done in operations on the ramus, the best time is at the end of the first week, when the œdema should be subsiding, and at a time when new bone is beginning to form.

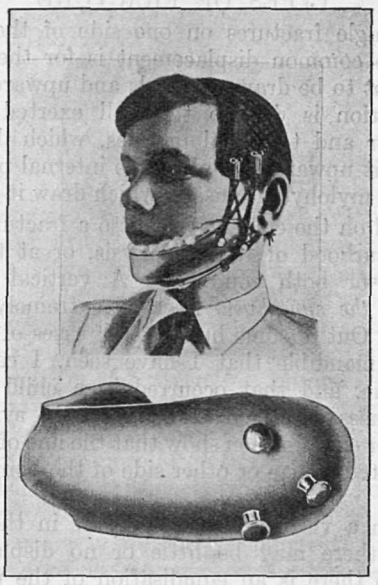


FIG. 2.

MAIN PRINCIPLES OF DENTAL TREATMENT

The main principles in the dental treatment of these fractures are: (1) The removal of sepsis and the maintenance of a clean mouth; (2) the reduction of the fracture and the stabilisation of the fragments; (3) rest, followed later by passive movements and massage.

As soon as the patient has recovered sufficiently from the initial shock and is in a fit condition for mouth operations, the teeth should be scaled and the wound constantly irrigated with a suitable mouth wash. The gums are painted daily with a 1 per cent. solution of iodine. During the first week the diet must be fluid, or semi-fluid, no attempt being made to masticate food, and the patient should be seen every day.

The radiographs should be taken when the patient is well enough for this procedure. If, however, the X-rays are not immediately available, the cleansing of the mouth and the treatment of loose and obviously septic teeth should be proceeded with as soon as the general condition of the patient permits these operations.

All septic teeth and roots, and those involved in the line of the fracture, must be extracted.

It is necessary, in almost every case, to extract the teeth adjoining the fracture, because, being a compound fracture, the wound becomes infected and the periodontal membranes of teeth in such positions are involved. We have not yet discovered the means of reuniting permanently the periodontal membrane after rupture from the alveolus has occurred. The infected periodontal

membrane tends to suppurate, and suppuration prevents union of the bone.

In a few cases I have broken this rule with complete success. One instance was in a boy, aged 13, where the fracture passed along the direction of an unerupted canine. By careful and constant irrigation, and early fixation of the fragments, we were able to obtain union in two or three weeks without sacrificing the canine, which ultimately erupted in normal position. Another case was in a youth, aged 16, where the line of fracture was in close relation with the left lateral incisor. Here, again, early and persistent irrigation in a strong, healthy patient prevented irreparable damage to the periodontal membrane. But these are exceptional cases.

The recommendation that two teeth on each side of the fracture should be removed as a routine practice is fallacious. Such treatment will be necessary only when the bone is badly comminuted.

SEQUELÆ

Swelling, suppuration and necrosis are not uncommon sequelæ of fractures of the jaw. They are the result of infection, defective drainage and undue mobility of the fragments during the early stages. The presence of a tooth or a root in the line of the fracture is a common cause. All sinuses must be treated and freely opened up, so that adequate drainage may be secured, but the removal of necrosed bone is best left until it has sequestrated. It may be several days before the patient is ready for prosthetic treatment. As soon as the shock of the injury has passed off we may proceed with the impressions of the mouth where these are required. I prefer to take impressions at the outset if possible, even before any necessary extractions are performed. Modelling composition does quite well for these impressions. Plaster of Paris is contra-indicated, because pieces of the plaster are likely to break off and act as foreign bodies in the wound.

INTER-DENTAL SPLINTS

In some quarters there is a tendency to decry the value of splints in the treatment of fractures of the jaw. There is no doubt that the practice of attempting absolute fixation over a period of many weeks has been largely overdone, and this has led some practitioners to go to the other extreme and discard the splint altogether, or, at all events, in most cases.

M. Lucas Championnière, the great French surgeon, more than 20 years ago demonstrated the value of massage and early mobilisation in the treatment of fractures, but he did not dispense with the principles of rest, which are of essential importance in the treatment of all wounds.

The surgeon who does not understand the working and adaptation of internal splints is apt to lose sight of their value, whilst the dental surgeon is often in danger of depending merely upon the mechanical fixation of the splint and of neglecting the general surgical treatment. At the same time the dental surgeon is better able, perhaps, to recognise the importance of correct occlusion of the teeth.

It must be remembered, in connection with a fracture, that the lesion is not confined to the bone; it also affects the soft tissues into which blood and lymph are poured, and which, if not removed, often lead to the formation of a certain amount of fibrous tissue which may bind the parts together and limit normal movement. On the other hand, whilst mobilisation and massage are most valuable aids when the new bone is forming, rest and even fixation of the fragments may be essential during the first 10 or 14 days. Moreover, unless the ends of the bone rest in fairly good apposition during this early period, union may be delayed and serious disability result.

To obtain absolute rest for the parts, and good apposition of the fragments, an interdental splint is necessary in the majority of cases. In my opinion, it is almost as great a mistake to avoid the use of internal splints in these cases as it is to neglect the treatment of the sepsis so often associated with compound fractures. Interdental splints, so far from increasing the sepsis (as has been alleged), when correctly designed and properly applied, tend to diminish sepsis and promote healing, owing to the rest and support thus afforded to the lacerated part. I admit that, in the past, fixation of the jaws has been allowed to continue too long. In most cases where sepsis has been eliminated and the fragments have been at rest, new bone will begin to form in a week or 10 days; controlled mobilisation and massage will be advantageous when this stage has been reached.

I shall not attempt to describe the many different appliances which have been devised for the treatment of these conditions. The Tomes, Gunning, Hammond, Cradle, Kingsley and Hayward splints, and their modifications, are referred to in text books on dental surgery and must be familiar to you all. But without going into the details of the mechanical construction of these appliances, I would like to deal with a few points which seem to me to be important.

All splinting (except the steadying of loose fragments by means of temporary ligatures) should be delayed until the septic teeth and roots, and the teeth in direct relationship with the fracture, have been extracted; until scaling of the teeth is finished, and until some, at least, of the inflammatory exudation has been absorbed.

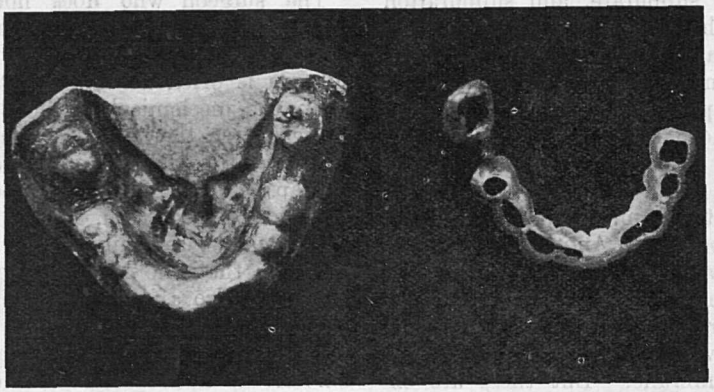


FIG. 3.

If reasonable stability of the fragments can be secured by using a single splint it is to be preferred, and it will enable the passive movements, referred to above, to be carried out at any time. In many instances, however, full control of the posterior fragment can be obtained only if the teeth are held firmly in occlusion, so as to gain the support and resistance of the maxilla, and this will mean fixing of an appliance to the upper, as well as to the lower, jaw. If such fixation is carried out, provision should be made so that the patient may be able to separate the jaws readily when necessary by removing a bolt or cutting the wires. For this purpose the patient must be supplied with a suitable instrument. Danger may arise if the patient happens to vomit whilst the jaws are held firmly together by means of an interdental splint, unless such provision is made. After the splint has been worn for 10 days it is well to examine the parts thoroughly to ascertain whether union of the bone is commencing. If the jaws are being held in occlusion by the splints it will be necessary to separate these in order to make a complete investigation.

Some of you may expect me to refer to the cradle splint. When I introduced it more than 20 years ago I applied it to a large number of cases. To-day I seldom use it, for in most cases where I used it formerly I now prefer the all-metal cast-cap splint, which can be more quickly adapted to various requirements. In constructing the all-metal cap splint there are a few points calling for attention.

After the usual adjustment of the models to correct any deformity, the area on the model required for the splint is covered with a thin layer of casting wax. On the top of the thin layer I then place the wax that is to form the model for the cast splint (Fig. 3). The employment of this thin layer of wax prevents the splint from binding too tightly, and it allows sufficient room for the cement with which the splint is ultimately fixed to the teeth. Also, it is important, in the construction of this splint, to see that the teeth can close in normal occlusion.

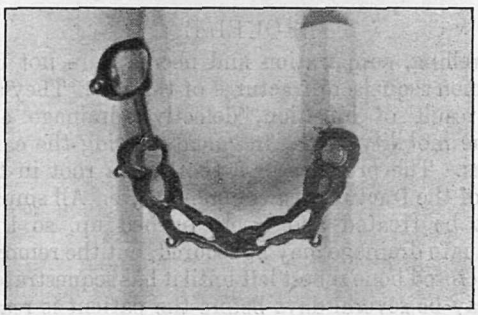


FIG. 4.

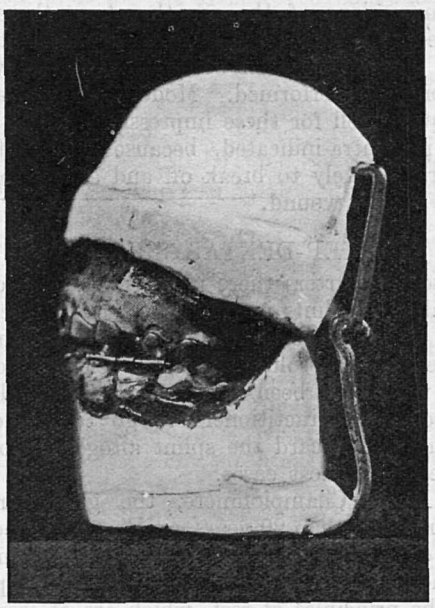


FIG. 5.

This can be done only if a number of openings are left in the wax, and ultimately, of course, in the metal splint itself, on the masticating surface where the cusps of the teeth come into contact. Unless this provision is made, as shown in Fig. 4, there will be some risk of leaving an open bite when the case is finished. If the splint contains none of these holes on the occlusal surface it is difficult to press it well home to its place when the trough is filled up with cement at the time of fixation. When it is necessary to use maxillary, as well as mandibular, splints, in order to keep the parts at rest, these can be immobilised by wiring together loops from each splint, or by using a bolt or tube lock (Fig. 5).

Where the posterior fragment is pulled upwards an extension may be carried from the metal-cap splint to correct its position and to control its movement. Base plate gutta-percha can be attached to this extension in order to obtain pressure on the raised posterior fragment and to control its tendency to displacement.

The "Gunning" splint is of value when the mouth is edentulous, or where the teeth are too few or too loose, to form an adequate support. If a fracture occurs in an edentulous mandible where the patient has been wearing artificial teeth, that denture may be used as the splint; and where it is a complete set, by removing two teeth, above and below on each side, and uniting the two plates through these gaps with vulcanite, we have the simplest and most satisfactory form of "Gunning" splint. When adequate fixation and cleanliness have been maintained for 10 to 14 days, passive movements and massage of the jaw should follow immediately.

Non-union of the bone is uncommon in cases of fracture of the mandible occurring in civil life. On the other hand, delayed union is frequently met with, and the commonest cause of this failure is sepsis. Imperfect reduction of the fracture, with wide separation of the fragments, is also a potent cause, especially where there is interposition of fascia and other soft tissues obstructing the work of the osteoblasts.

Lack of fixation, or inadequate rest of the fragments, not only hinders union, but the movement tends to favour sepsis itself. This is specially important in the region of the second and third molars where the bite is likely to cause a constant see-saw motion. Constitutional causes, such as some remote focal infection producing a general toxæmia, hypo-thyroidism, hyper-thyroidism, syphilis and diabetes will all hinder the normal union of bony fragments.

The treatment of delayed union usually involves operative interference to remove the intervening obstructions and to stimulate osteogenesis. This must be followed by paring the edges of the fragments, placing them in apposition, and refixing by means of an adequate splint.

In conclusion, I wish to lay stress upon the importance of recognising and understanding the muscular actions which cause the displacements, to call attention to the importance of the interrelationship of the surgical and dental treatment of these cases, and to show the value of bringing the treatment of fractures of the jaw into closer line with the modern treatment of other fractures.

Illustrations by the courtesy of the British Dental Journal.

Reviews.

Some More Medical Views on Birth Control. Edited by NORMAN HAIRE. By 11 Contributors. 1928. Pp. 239. Published by Messrs. Cecil Palmer. *Price* 7*s.* 6*d.*

Parenthood: Design or Accident. By MICHAEL FIELDING. Pp. 98. Published by Messrs. Labour Publishing Companies, Ltd., 38, Great Ormond Street. *Price* 2*s.* 6*d.*

THE first book is a counterblast to a book which appeared two years ago entitled *Medical Views on Birth Control* (Martin Hopkinson). This work was edited by Sir James Marchant, who is an opponent of birth control, and who selected most of his contributors from the ranks of medical men and women who disapprove of this practice.

In the first article of the book under review, Dr. Norman Haire, the editor, points out that the average age of the contributors to Sir James Marchant's book is approximately 62. He also emphasises the fact that not a single one of these contributors "appears to have any considerable amount of experience of contraceptive practice." Their views may therefore have been behind the times, and also perhaps overweighted by considerations of a theoretical rather than a practical nature.

Books purporting to express medical views on birth control have appeared in considerable numbers of late. They exhibit a tedious uniformity, and are open to a criticism which has been trenchantly stated in a recent work attacking birth control by a non-medical writer. In his book, *The Night Hoers*, Mr. Anthony Ludovici draws attention to the profoundly divergent views held upon the medical effects of contraception by luminaries

of the gynæcological specialty. And he says: "Nor should we be impressed by the fact that most doctors, in writing for or against birth control, fill up the space which cannot be occupied with valid scientific judgment, by departing from their special knowledge and training in order to discuss the sociological, ethical, biological and religious aspects of a question, the medical aspects of which their own qualifications and experience do not enable them to answer with certainty. For a medical man is not necessarily better qualified than any one else to embark upon discussions on sociology, ethics or religion, and his views on these aspects of birth control do not always help the discussion." These are true words, and Mr. Ludovici is perfectly justified in making this criticism.

Dr. Norman Haire's book is perhaps less open to it than the others, since it includes contributions from the three medical persons who, at the present time, have greatest practical experience of contraception, namely, Dr. Aletta Jacobs of Holland, Dr. Hannah Stone of the American Birth Control League, and Dr. Haire himself.

By no writer in this book are contraceptive methods discussed in any detail. By far the greater part of the book is taken up with the discussion of sociological, religious, ethical and other considerations. The contribution of Dr. F. A. E. Crew is a sort of *confessio fidei* in which, in turbid language, he announces that he is not a nationalist, nor a militarist, nor an imperialist; that he does not know what Nature intends—Dr. Crew is wiser in this particular agnosticism than some of his colleagues; that there can be no truce between science and religion; that the soul is not an entity in itself, but a life; and that the criterion of the good is that which benefits the race. Dr. M. D. Eder gives a remarkable account of why we are birth controllers or anti-birth controllers in terms of psycho-analytic theory. It appears that we are anti-birth controllers because we are animated by "life instincts" which "would give us, if we pushed them to their theoretical limit, infinite children" (p. 134). We are birth controllers, on the other hand, because, for some reason unexplained, we are at the mercy of an opposite set of instincts, the ego instincts, which prompt us to desire the death of our children. But what is deduced as a solution from this illuminatingly simple generalisation? Dr. Eder's solution will probably strike most readers of this book—and it might even strike psycho-analysts—as lame."

Education, in the widest sense of the term, is the weapon with which such opposition is to be fought." Once you are educated to grasp which instinct you are victimised by, the whole problem becomes easy; in fact, there ceases to be a problem at all.

To the lay reader who desires reassurance that there are members of the medical profession who "approve" of birth control, this book may come as a source of comfort. To the medical man who desires guidance as to how he is to advise his patients as to the best method to use, it will be of little help. But a book that provides information on precisely this matter has recently been published under a pseudonym by a medical author. This book, the second above referred to, by "Michael Fielding," fulfils a need that has long been felt. It gives a clear and reliable statement in unemotional language of just those details which the practitioner wants to know in advising his patients on the methods of contraception, and it is to be recommended fom this point of view.

The Nursing of Infectious Diseases. By E. J. Woollacott, M.A., M.D., B.Ch., D.P.H. 4th Edition. Revised and enlarged by Dorothy C. Hare, C.B.E., M.D., M.R.C.S., D.P.H. Published by Messrs. Faber & Gwyer, Ltd. *Price* 4*s.* net.

THIS extremely handy little book, originally written by a medical officer at a large fever hospital, and now, in its fourth edition, revised by one of the examiners in medicine for the State Examination, is bound to appeal to a nurse who is up for her final State or is intending to take up fever work.

This book is based upon a series of lectures originally published in the Nursing Section of the *Hospital*, and is written in an eminently readable and practical style. Added to the third edition are pages on encephalitis lethargica and acute poliomyelitis, very wise additions when the comparatively recent epidemics of these diseases in this country are taken into account. Further, references are made to the Schick and the Dick susceptibility tests, the former being of special interest to Guy's nurses on account of the valuable statistics partly built up by their co-operation in this diphtheria susceptibility test. Other additions are some typical temperature charts and a table of reference for the periods of incubation, quarantine, etc.

Considerable space is devoted to enteric, essentially a "nursing" disease, and this again will be appreciated by Guy's nurses, who, unlike nurses at many other general hospitals, have some opportunity of nursing these cases in the general wards.

A chapter on the nursing of venereal diseases, frequently omitted from small text books on infectious diseases, is included, and mention is made of the most up-to-date methods of Barrier and Cubicle nursing, methods not to be found in

some of the standard works on nursing. Finally, we commend the scheme of treating all the diseases from both hospital and private nursing points of view.

Altogether, this is an excellent little book and one to be carried about in the pocket—if nurses have pockets—of any would-be Final State candidate.

Correspondence.

[*The following has been sent us by an old Guy's man in India as an example of some of the letters he receives from his patients.*—ED.]

RESPECTED SIR,—Most respectfully I beg to state that I as per my request being allowed by the officers have come once more to get your Honor's help by describing in writing as I find myself unable to explain verbaly as I have to weep in it although I try to controll. I am suffering breathing troubles since 10 years; formest attack being after a very hard work of 9 months in winter. It was mixed with bad dysentry. I gave my case in hand of Doctor Beli Rum deceased, a renowned doctor of the Punjab who prescribed only when urgent. He prescribed Cod liver oil compounds—Glycerophosphates in former years and arsenic-Iron-strych compounds later. After that I was prescribed arsenic-strych etc compounds by Dr. Bhopal Singh Sahab. In the meantime I was only temporarily relieved and often got severe attacks of breathing troubles while performed the hardest duties, some of which can be said to be impossible. In 1925 summer however, took severe attack of cholera symtoms followed by bad cough, often closing of voice in the morning, while I performed the hardest duty of day and night work as my brain was favourable, while in 1926 April I got this Neuresthenia and was so nervous in summer that could hardly recognize a man, went on leave when felt badly depressed. In Feby last got your Honor's medicine formerly compound of soda-Glycerine, Gentian etc and lately strych-Acid Hydro-Nit-Chl. and Gentian etc by which some relief to suffocation was got, but unwell in summer and in September was attacked by Malaria with bad depresion went on leave, consulted best medical help at Lahore. Different opinions were as usual were as to be the chronic Asthma with Neurasthenia-Emphasyma liver etc. R. B. Doctor Balkishen prescribed me to take enema of Quassia water which I found to give some relief but on the 5th day suffered diarhea for a day and am told to try it often to kill the ova unless they are not found in stools. I am so hygienic that I have never taken tea even in my life, the only evil being constant hard works with irregular food. Instead of controlling my mind which I know is only remedy for me I am never at ease on work or rest and at present the following are the main symptoms

(1) dimness before eyes on little brain work, cataract in Rt eye increasing sharp

(2) unattention towords works—children—food—life, with indigestion etc, bad hands

(3) often feeling of oppression in chest as if a stick is given in it and sinking of heart

(4) foolish desire of making up once more as active as before, but fearing too much

I hope, you would kindly pay your renowned attention towords my pity case and let me know whether I can put myself on hard and responsible work while I fear all this and desire nothing but health and though hopeless especially after tease of breathing troubles and brain wheeling I have intended to get your Honor's advice and shall leave all things altogether if unsuccessful now even.

I beg to remain
Sir
Your most obedien Servant
GRANCHARD overseer

Sport.

Athletic Club.

Guy's Hospital Annual Sports.

THE Annual Sports were held at Honor Oak Park on Saturday, May 26th. The track was on the heavy side, otherwise conditions were ideal, and some very good performances were made, although no records were beaten.

Hertzog, Harrison and Hogbin carried off most of the honours; of the new men, Croudace and Smith both did well.

In the 120 Yards Hurdles, Harrison and McLean raced neck and neck up to and over the last hurdle, when Harrison's extra speed in the run in gave him a win by a yard. The Furlong produced another exciting finish, the judges being unable to separate Harrison and Hertzog on the tape. Hertzog won the Javelin Handicap from scratch with a splendid throw of 156 ft. 8 ins. In the Half Mile Hogbin won by several yards, but two yards covered the next three men in—Harrison, Edmonds and Smith. The most exciting race of

the day was the Mile Relay, Medical v. Dental. The Medicals led at the half mile, the Dentals at three-quarters and at 7 furlongs, but in the last furlong Hertzog just overhauled Small to win a splendid race by 4 inches.

The Saturday before Whitsun was not a convenient date for many people, but we wish to convey our thanks to all those who turned up and supported the meeting.

RESULTS

Referee—Dr. H. French.

Judges—Dr. Campbell, Dr. Munro, W. H. Ogilvie, Esq., M.Ch.

Starter—H. Grendall, Esq.

Timekeepers—Messrs. Gould, Fowler-Dixon, Lacey.

Scratch Events

100 *Yards*—
1st, Hertzog; 2nd, Harrison; 3rd, Small. $10\frac{2}{5}$ secs.

220 *Yards*—
1st, Hertzog and Harrison, 3rd, Small. $23\frac{1}{5}$ secs.

440 *Yards*—
1st, Harrison; 2nd, Hertzog; 3rd, Smith. $56\frac{2}{5}$ secs.

880 *Yards*—
1st, Hogbin; 2nd, Harrison; 3rd, Edmonds. 2 min. $8\frac{3}{5}$ secs.

1 *Mile*—
1st, Hogbin; 2nd, Croudace; 3rd, Cox. 4 min. $45\frac{1}{5}$ secs.

3 *Miles*—
1st, Hogbin; 2nd, Croudace; 3rd, Jones. 16 min. 18 secs.

Throwing the Hammer—
1st, Hertzog; 2nd, Dingemans; 3rd, Bergh. 83 ft. $11\frac{1}{2}$ ins.

Putting the Shot—
1st, Hertzog; 2nd, Dingemans; 3rd, Bergh. 35 ft. 2 ins.

Hurdles—
1st, Harrison; 2nd, McLean. 17 secs.

High Jump—
1st, Hertzog; 2nd, Spence; 3rd, Harrison. 5 min. $2\frac{3}{4}$ secs.

Long Jump—
1st, Hertzog; 2nd, Harrison; 3rd, Spence. 21 ft. 6 ins.

Clement Lucas Cup

1. Hertzog	32 points
2. Harrison	25 ,,
3. Hogbin	15 ,,

Handicap Events

100 *Yards*—
1st, Small (5 yds.); 2nd, Bergh (10 yds.); 3rd, Edmonds (7 yds.).

440 *Yards*—
1st, Bergh (40 yds.); 2nd, Edmonds (30 yds.); 3rd, Spence (30 yds.).

1 *Mile*—
1st, Hogbin (scr.); 2nd, Brown (30 secs.); 3rd, Edmonds (20 secs.); 4th, Spence (25 secs.).

3 *Miles*—
1st, Jones (3 mins.); 2nd, Weston (4 min.); 3rd, Edmonds (3 min.).

Throwing the Javelin—
1st, Hertzog (scr.); 2nd, McLean (35 ft.); 3rd, Spence (30 ft.).

Throwing the Discus—
1st, McLean (35 ft.); 2nd, Hertzog (scr.); 3rd, Gross (20 ft.).

Staff Race—
1st, Goodliffe; 2nd, Grimwood.

Tug of War—
Dentals beat Medicals, 2 pulls to 0.

Relay Race (880, 440, 220, 220)—
Medicals (Hogbin, Smith, McLean, Hertzog) beat Dentals (Kennedy, Harrison, Allott, Small).

At the conclusion of the meeting Mrs. J. M. H. Campbell very kindly presented the medals and prizes.

Golfing Society.

Guy's *v.* Shortlands.

THIS match was played at Shortlands on Wednesday, May 23rd. Although played in the rain, some very good individual scores were recorded and every game was keenly contested. Whilst it is impossible to discourse on individual play, we should like to congratulate P. H. Lomax on his victory. We have always been given to understand that he could not play golf unless accompanied by a caddie, and we sincerely hope that the shock of this unaided triumph will not prove fatal.

Our opponents again proved excellent hosts, and our thanks are due to Messrs. Haste and Gunn who, though unable to play this year owing, so it is said, to the pressure of work, came down later and proved themselves most efficient and attentive waiters.

Result—Guys $6\frac{1}{2}$ matches, Shortlands Golf Club $3\frac{1}{2}$ matches.

Guy's		*Shortlands*	
K. Whitworth (5 & 4)	1	C. E. Spenser	0
C. D. Malone	½	E. M. Earle	½
W. J. Cotton (2 up)	1	A. Woolley	0
P. H. Lomax (2 up)	1	G. Fitzsimmons	0
E. C. Duffett	0	R. C. Barrett (3 & 2)	1
L. B. Langmead (5&4)	1	L. MacDougall	0
O. Ive	0	S. F. Gauntlett (3&2)	1
A. J. D. Gibbings (5&4)	1	C. Sage	0
R. F. Lomax	0	C. Mason (8 & 7)	1
S. H. Croot (3 & 2)	1	T. Wight	0
	$6\frac{1}{2}$		$3\frac{1}{2}$

Monthly Medal—

O. Ive, 92—12=80; W. J. Cotton, 89—8=81.

The following fixtures have been arranged for the season :—

FIXTURES

Date	*Team*	*Ground*	*Result*
Feb. 15	R.A.M.C.	West Hill	L. 3–9
May 23	Shortlands	Shortlands	W. 6½–3½
June 13	Sidcup	Sidcup	
„ 24	Hastings Medico Dental Society	Hastings	
„ 27	Shortlands	Sidcup	
July 1	St. Leonards G.C.	St. Leonards	
„ 4	Staff Match	Sidcup	
„ 22	Hastings Medico Dental Society	St. Leonards	
Sept. 12	R.A.M.C.	Sidcup	
„ 19	Sidcup	Sidcup	

Cricket Club.

Guy's *v.* Private Banks.

THIS match was played at Catford Bridge on May 5th, and resulted in a loss to Guy's by 7 wickets.

Guy's

T. O. Garland, b. Brown	9
H. Cameron, run out	8
F. H. B. Spence, b. Fevez	1
R. J. Eustace, b. Brown	0
E. V. B. Widdowson, b. Fevez	1
J. Durr, b. Fevez	1
J. P. O'Shea, b. Fevez	0
R. A. P. Hogbin, b. Fevez	0
F. R. Hayward, b. Fevez	9
W. D. G. Jones, not out	20
A. J. Lewis, b. Pearce	27
Extras	6
Total	82

Bowling—Fevez, 6 for 16.

Guy's *v.* Wimbledon.

THIS match was played at Wimbledon on May 12th, and resulted in a win for the Hospital by 3 wickets.

Guy's

T. O. Garland, retired	118
H. Cameron, b. Fitz-Archer	3
F. H. B. Spence, c. & b. Steward	19
R. J. Eustace, retired	23
W. D. G Jones, b. Walter	0
E. V. B. Widdowson, st. Dalome, b. Walter	2
S. M. Whitteridge, not out	6
J. P. O'Shea, c. Mason, b. Walter	3
Extras	24
Total (for 7 wkts.)	198

H. S. Gare, R. A. P. Hogbin and F. R. Hayward did not bat.

Wimbledon—140 (Steward 62).

Bowling—O'Shea 6 for 40, Whitteridge 2 for 9.

Guy's *v.* Crofton Park.

THIS match was played at Honor Oak Park on May 28th and resulted in a win for the Hospital by 122 runs.

Guy's, 211; Crofton Park, 89.

Guy's

F. H. B. Spence, c. Wells, b. Sharpe	25
H. Cameron, not out	105
R. J. Eustace, st. Hall, b. Willson	20
E. V. B. Widdowson, st. Hall, b. Sharpe	15
H. S. Gare, c. Willson, b. Sharpe	2
W. D. G. Jones, run out	0
J. P. O'Shea, b. Lawton	5
W. P. Roe, b. Lawton	4
R. M. Outfin, b. Lawton	4
A. B. Wearing, b. Willson	9
S. M. Whitteridge, hit wkt., b. ——	14
Extras	7
Total	211

Bowling—O'Shea 6 for 27, Cameron 3 for 16.

Rifle Association.

THE ANNUAL PRIZE MEETING

THIS meeting takes place at Bisley on Wednesday, June 20th, and everyone is welcome. There are prizes for 200, 500 and 600 yards, grand aggregate, novices, snap and rapid. Novices are particularly invited. They receive handicaps against the "pro.'s" and have a "shoot" of their own, and we can assure them that Bisley is well worth a visit, even if they fail to bring back a "pot."

STAFF VERSUS STUDENTS

The annual Staff versus Students match takes place on Sunday, June 24th. Practice targets will be available in the morning and the match will start at 2 p.m.

ARMITAGE CUP

The Armitage Cup, the official Inter-Hospital Cup, will be shot for at Bisley on June 6th, 13th, 20th and 27th. We are the present holders and hope to hang on to it. Some of our team will be unable to shoot at times owing to examinations, but if our new "recruits" show enthusiasm and go to Bisley during the week-ends for practice we shall, no doubt, overcome this difficulty, and once again put "Guy's" on the Cup.

T. D. WREN,
Hon. Secretary.

Rugby.

THE Annual General Meeting was held in the Anatomical Theatre on Tuesday, June 5, with the President, Mr. Steward, in the Chair, and about 30 members of the Club were present. The Minutes of the previous meeting were read and confirmed, after which the following members were elected by the meeting to hold office during season 1928–29 :—

Captain—T. O. Garland.
Vice-Captain—J. R. F. Popplewell.
Hon. Secretary—E. A. R. Berkley.
Hon. Secretary, " A " Team—D. J. O'Shea.
Hon. Secretary, Extra "A" Team—M. A. Freeman.
Hon. Secretary, " B " Team—H. D. Cockram.
Hon. Secretary, " Nomads "—R. H. Lomax.
Committee—
1st Year Representative to be elected at the October General Meeting.
2nd Year—D. F. Ryan.
3rd Year—T. Morgan.
4th Year—T. G. Robinson.
5th Year—B. G. Scholefield.
Dental—C. D. Malone.

A vote of thanks proposed by J. R. F. Popplewell was given to W. D. G. Jones, who had been Secretary for the past two years.

The meeting closed after a vote of thanks had been given to the President.

Hockey.

President—
F. J. Steward, Esq., M.S.
Vice-Presidents—
C. H. Fagge, Esq., M.S.
L. Bromley, Esq., M.Ch.
E. C. Hughes, Esq., C.B.E., M.Ch.
O. G. Morgan, Esq., M.Ch.
A. W. Ormond, Esq., C.B.E.
E. P. Poulton, Esq., M.D.
Captain—F. E. Camps.
Vice-Captain—H. O. Lyne.
Hon. Secretary—F. R. Hayward.
Committee—

E. T. Conybeare	R. A. Sykes
G. N. Carrell	L. R. Peatfield
J. B. Schofield	C. A. W. Archer

Pavy Gymnasium.

THE Annual General Meeting of the Pavy Gymnasium will be held on Tuesday, June 19th, 1928, at 12.30 p.m., in the Physiological Theatre (by kind permission of Professor Pembrey).

All who are interested in Boxing, Fencing or Gymnastics are invited to be present.

Specialities.

"SANATOGEN."

GENATOSAN, LTD., Loughborough, Leicestershire.

SANATOGEN was first introduced to the medical profession 30 years ago, and its value to-day is increased by the tests to which it has been submitted.

It is composed of 95 per cent. of pure, specially prepared casein and 5 per cent. of glycero-phosphate of sodium. It is a valuable aid to metabolism and assimilation in the course of certain diseases in which nutrition is greatly affected. Its phosphorous content causes increased oxidation in the healthy cells of the body,

It has been used in the treatment of insomnia, neuralgia, gastro-intestinal diseases, gastric ulcer, tuberculosis, anæmia, diabetes, gout, etc., also in all children's diseases.

Further details will be gladly forwarded to medical men on application to the above address.

"ODOL,"

CRANBUX LIMITED, Westwick Street, Norwich.

WE would call our readers' attention to " Odol " Tooth Paste as a powerful germicide, non-poisonous, non-irritating and agreeable in flavour. It cleanses and preserves the whole of the mouth and teeth, and it is the only Dentifrice which remains on the teeth after use, thus ensuring purity of breath.

It has, too, the merit of being economical, a 2*s.* 6*d.* tube lasting for months. An " Odol " Tooth Brush used with it gives the best results.

Further particulars will be gladly sent to readers by application to the above address.

Change of Address.

Oliver Halstead, 35, Weymouth Street, W.1. 'Phone : Langham 1520.

Dr. A. S. Rudd, 27, Heath Drive, Hampstead, N.W.3.

D. C. M. Ettles, M.B., B.S., M.R.C.S., L.R.C.P., The Square, Barnstaple, Devon.

R. A. Norman, Dunster, Fakenham, Norfolk.

Appointment.

T. G. D. Bonar, M.D., M.S.(Lond.), appointed Hon. Surgeon with Charge of Out-Patients to Dreadnought Hospital, Greenwich, S.E.

V. V. H. Hoakai, M.R.C.S., L.R.C.P., appointed to the Government Medical Service, British Guiana.

Papers by Guy's Men.

John Fawcett, F.R.C.P., and A. G. Gibson, F.R.C.P. A Case of Splenic Anæmia Due to a Streptothrix Organism, *Lancet*, 1928, i, 1171.

C. P. Symonds, M.D., F.R.C.P. A Contribution to the Clinical Study of Schilder's Encephalitis, *Brain*, 1928, li, 24.

Pass List.

UNIVERSITY OF LONDON
THIRD M.B., B.S. EXAMINATION
May, 1928
Pass

I. Bakhsh	E. D. Y. Grasby
A. C. Hancock	A. B. Kettle
E. S. Phillips	C. L. Worthington

GROUP I

C. Gross	E. C. H. Huddy
D. F. Kanaar	

GROUP II

S. J. M. de Nevasquez	D. E. Dunnill
M. MacKenzie	J. R. Rickett

EDS. { O. P. E. T. C.

GUY'S HOSPITAL GAZETTE

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PUBLISHED FORTNIGHTLY.

Volume XLII. *June 30th, 1928.* *Number 1042*

PASSIM

THIS is the season of Gold Cups and Gold Medals. While sporting peers and racehorses achieve goblets of gold, medals of the same precious ore are awarded to those distinguished in learning. There is a distressing tendency in these revolutionary days towards the fashionable use of platinum in place of gold. Where watch chains of beautifully solid yellow metal once crossed the ample abdomens of our distinguished forebears, the equally well-filled waistcoats of the great men of to-day are traversed by the slenderest of grey platinum chains, or remain unenlightened in their gloomy vastness. Ever since history began gold has been used to indicate and adorn the supreme, be it Apple, Fleece or Arrow. We refuse to allow our minds to dwell upon the day when our grandsons shall be recorded as having won the "Platinum Medal."

WE should like to congratulate Mr. J. B. Robinson on being awarded the Treasurer's Gold Medal in Surgery. At the time of going to press, the name of the winner of the Gold Medal in Medicine has not been published.

WE have been asked to draw attention to the hitherto little known "Society for the Relief of Widows and Orphans of Medical Men," which was founded in 1788 and incorporated by Royal Charter in 1864. Membership is open to any registered practitioner who, *at the time of his election* is resident within 20 miles of Charing Cross, the annual subscription for those under 40 years of age being 2 guineas. At the present time a widow of such member who is left with an income under £125 a year receives a grant of, roughly, £80 per annum, and each orphan up to the age of 16 an annual allowance of £50. There are in addition two special funds in connection with the provision of substantial grants to orphans over the age of 16.

The advantages of membership, especially in the case of newly-qualified men who have not been able to venture on life insurance, seem to us worthy of earnest consideration. Full details of the administration of the Society's funds and of election to membership may be obtained from the Secretary at 11, Chandos Street, Cavendish Square, W.1.

WE have been asked to announce that the Beddard Prize Fund, about which a notice and correspondence appeared in a recent issue of the GAZETTE, will soon be closed. Those still intending to send their subscription, and there must be a great many, should do so as early as possible.

ON Tuesday, June 26th, in the Physiology Theatre, Professor A. Hopewell Smith, Sc.D., L.R.C.P., M.R.C.S., L.D.S., of the University of Pennsylvania, delivered a most interesting lecture on "The Process of Osteolysis." Mr. Lewin Payne was in the chair and proposed a vote of thanks to the lecturer.

ON Wednesday next, July 4th, a mixed doubles tennis tournament, run on American lines, and open to members of the Hospital and the Nursing and Massage staffs, will be held at Honor Oak Park. Full particulars of the tournament, together with a list for names of intending entrants, is to be found on the Lawn Tennis Club Board in the Colonnade. This function is rapidly becoming an annual one, and certainly seems to be enjoyed by all those taking part. So we strongly advise anyone who has not yet taken the plunge to be bold

and put his name on the list which, at the time of going to press, is sadly short.

THE following have been appointed Clinicals for the period July 16th–October 15th :—

Mr. E. T. Conybeare.
Mr. J. E. Crooks.
Mr. H. N. W. Harley.
Mr. L. B. Langmead.
Mr. J. E. Morton.
Mr. J. H. Richmond.

WE are privileged to draw attention to the discovery of a new disease, or, rather, of a new variety of an old one. Considerable prominence in the published reports of a recent poisoning trial has not gained for this malady the notice it deserves, although it is apparent that it may attack both sexes with equal severity and may even run a lengthy course. We reprint the original announcement as given in a well known-evening paper :—

" Dr. —— said the patient was admitted to hospital on August 19th in a condition so helpless that he had to be carried in. He (the doctor) diagnosed the condition as *puerperal neuritis*.

" Mr. —— ——: Did you expect when he left the hospital that he would die of *puerperal neuritis* ?

" Dr. ——: No ! "

We are willing to wager that the patient's condition was not nearly so helpless as our own after reading the above.

ON July 12th, 13th and 14th there will be held the annual Old World Fete and Amusement Fair in aid of the London Hospitals. The fete, organised by the British Charities' Association and 50 London hospitals, takes place in the Royal Botanic Gardens, Regent's Park, and always provides an excellent afternoon's entertainment. Notices of the Fair are to be found about the Hospital.

WE regret to have to record the death of a well-known old Guy's man, Harry Pottinger Keatinge, Esq., C.M.G., M.B., B.S.Durham, F.R.C.S.Eng. Dr. Keatinge was the late Director of the Egyptian Government Medical School and Kasr-el-Ainy Hospital, Cairo. He died on June 21st at 21, Regent Road, Jersey, at the age of 68 years. We hope to be able to publish an obituary notice in our next issue.

Rheumatoid Arthritis.

A Clinical Lecture given by Dr. Douthwaite in the Physiology Theatre on Friday, June 8th, 1928.

GENTLEMEN,—In dealing with rheumatoid arthritis I want to impress upon you at the commencement that this is not primarily a disease of the joints, but rather a generalised systemic affection which involves all parts of the body, and in which joint changes appear later. It really has a long incubation period, or period of prodromal symptoms, which we have tended to disregard, particularly since the advent of the theory of focal sepsis being the cause of arthritis. If you would battle successfully with this affliction you must concentrate your mind on the study of the patient as a whole, and put the joints well into the background of your consideration.

To elaborate, let us consider the type of patient met with in the early stages of the disease. Most cases of rheumatoid arthritis, as distinct from infective arthritis, occur in women at the reproductive period of their life. If you examine such, before the joints are affected, striking modifications in the condition of the skin are at once evident. In nearly every instance it is pigmented, the condition varying from slight freckling to marked discolouration, which may be seen on the finger joints, face, in the axilla, on the extensor surfaces of the forearms and in the anal region. Of 50 consecutive cases of this disease I found this feature exhibited in 45. Evidence of vaso-motor instability is always found—it may be in the form of transient, patchy erythema or more commonly profuse, periodic sweats, particularly on the palms of the hands and soles of the feet, which are cold and clammy to the touch. The fingers often go " dead " or are cyanosed, reminding one of the warning attacks of Raynaud's disease.

The muscular system also shows changes in the form of twitchings, coming on usually at night and disturbing sleep, and of greater importance is the wasting of groups of muscles in a limb or limbs, even before joint mischief has made itself felt.

The pulse rate is characteristically high, even when the patient is in bed, and is liable to great fluctuations with slight physical effort or mental excitement. An unusually low blood pressure is rarely absent, provided that the disease is active,

systolic readings in the neighbourhood of 100 mm. Hg. being found in patients of 30 or 40 years of age. In the later stages of rheumatoid arthritis, when the joints are distorted and fixed by adhesions, you may find a different state of affairs, the blood pressure being high and the pulse rate low. Here, however, you are really dealing with the end results of a disease which is no longer active.

In the nervous system the only constant change lies in an exaggeration of the reflexes. Thus, the knee jerk can be elicited by a tap on the distal end of the tibia. Shooting pains along the course of the occipital nerves are of great frequency, occurring long before joint changes have manifested themselves.

Finally, I should mention the alimentary system, which never failed to show abnormalities in the form of a high degree of visceroptosis and delay in the passage of the contents through the colon, in all the cases which I have X-rayed. Considerable difference of opinion exists as to the condition of the gastric juice in these cases. Achlorhydria is, in my opinion, distinctly uncommon, although a low normal is often met with. In any case, the point is probably not of much importance, because a patient exhibiting a low hydrochloric acid content in the active stage of the disease may change to normal as she recovers. It is clearly illogical to accuse a deficient gastric secretion of allowing a causative intestinal infection of the joints.

As regards the patient's history, this is usually vague and includes loss of vigour and weight, fleeting pains in the limbs, palpitation and possibly some earlier definite illness such as influenza or complicated childbirth.

Of the signs and symptoms which we have discussed, none of them is of steadily progressive character, but they come and go in periodic manner, the intervals of good health becoming shorter and shorter until the patient is finally plunged into the state of fully developed rheumatoid arthritis.

On looking back at these symptoms you will be struck by their similarity to those of Graves' disease—*e.g.*, the sweating, pigmentation, palpitation, low blood pressure and exaggerated reflexes—and there is, in fact, a growing opinion that the basic trouble in this illness is a disturbed functioning of the thyroid, and possibly adrenals, associated with the demonstrable vaso-motor instability which we have already noted. Bearing in mind the latter point, we shall now pass on to consideration of the blood and bone changes.

During the active stage of rheumatoid arthritis, the oxygen saturation of the blood is increased and the venous approaches more nearly to the arterial. In other words, the oxygen is incompletely utilised by the tissues. Similarly, in 60 per cent. of subjects, the sugar tolerance is decreased, and both these changes are to be attributed to a widespread vaso-motor constriction and stasis. Thus, of the remaining arthritics who have a normal blood sugar, the majority can be made to show the same abnormality by laying them on the back and raising the limbs. In this way the blood flow to large areas is greatly diminished. and the condition produced is comparable to that of vaso-constriction. Furthermore, in the cases spontaneously exhibiting a high blood sugar, methods of producing general vaso-dilatation, such as heat or dilator drugs, bring the sugar withdrawal to normal. Note, again, the similarity, in respect of the blood sugar, to Graves' disease.

When the joint swellings come on they always start in the fingers, and are also periodic at first and due to subcutaneous œdema resulting from local capillary stasis. The joints most frequently affected are eventually those in which permanent arthritis develops, because there is not sufficient interval between the outbreaks to allow of the absorption of the œdema, and consequently a disturbance of the biochemical processes in the tissues is produced, with ensuing structural change in the peri-articular structures and bone.

If, then, the evidence points to a disturbance of the sympathetic system, possibly influenced by the thyroid, adrenals and pituitary body, naturally the skin functions on which the maintenance of body temperature largely depends will be disturbed and the subjects become hypersensitive to climatic changes. This we find to be actually the case, a true rheumatoid arthritic being a most sensitive and accurate barometer.

Before passing on to deal with treatment I will just mention, in connection with the subject of endocrine disturbance, that clinically one often finds that rheumatoid arthritis follows repeated pregnancy, that the onset of pregnancy may abolish the symptoms of early arthritis, that rheumatoid arthritis is a not uncommon sequel to exophthalmic goitre, that it is most prevalent abroad in goitrous districts. I think we should regard the thyroid as an organ which, though failing in function, exhibits in the first months of the illness attempts at over-activity, with the symptoms which we have reviewed, only finally to be defeated, producing the end picture of our patient, whom we find to have become obese, with slow pulse, high blood pressure and scanty hair.

Treatment—

The treatment of rheumatoid arthritis divides itself naturally into those measures to be employed in combating the disease in its early stages,

when there is little joint involvement, and those to be used when the illness has exhausted itself, but where deformed and fixed joints are left as a legacy.

At the outset we must deal with the vexed question of focal sepsis and its relationship to arthritis. Of recent years our attention has been so riveted on the possible dangers of oral sepsis that the risk has become very real of being satisfied with the elimination of infected teeth or tonsils, and then discharging the patient with the pious hope that she will recover as the result of one's surgical activities. As a matter of fact, the probability is that you could discover, in a few years time, that same patient now a confirmed cripple in an infirmary. I am sure that you must have shared my experience of seeing numerous rheumatoids lose teeth and tonsils and submit to prolonged vaccine administration with no further improvement in their condition than could be accounted for by rest in hygienic surroundings and sensible feeding. Often the removal of the condemned foci is followed by no constitutional disturbance, and the same remark applies to vaccine administration. Now, this is quite a different picture to that of infective arthritis, which is asymmetrical, attacks the larger joints, affects both sexes equally, and which clears up rapidly on the removal of the cause. You will do yourselves a lot of harm if you advise the wholesale removal of teeth simply because they are not quite healthy. Of course they are not healthy; the whole patient is diseased, and I have observed dental sepsis develop *with* the encroachment of rheumatoid arthritis, not before it. Remember that the interpretation of dental films is still in its infancy, and if you take the trouble to take a swab of one of those clear apical areas after the tooth has been extracted you will often find it absolutely sterile. Again let me remind you that many patients subjected to heliotherapy in the Alps recover from rheumatoid arthritis, even with a mouth full of septic teeth. Naturally, I do not advocate that you should allow such a condition as that to remain, for definite sepsis should be removed simply as a measure to improve the patient's general health. But if you want to battle successfully with the condition you must get further back than the stage of sepsis. Remember the type of patient I have described to you. She is merely suffering from loss of vigour, fleeting pains, cold extremities and palpitation. This is where you can nip the disease in the bud.

How, then, is the patient's health to be built up? The treatment is extraordinarily simple, and therefore rarely carried out. It is to put your case to bed in a revolving shelter so that constant fresh air and reflected sunshine can be obtained. Remembering the condition of the skin, you should restore it to its normal state by gradually exposing the body to the air and sun. In two weeks the appearance will have completely changed owing to the induced vaso-dilatation, and with the improvement of the body surface, so will all the symptoms retrogress and disappear. In the winter in this country vaso-dilatation must be brought about by prolonged immersion in dry, warmed air baths, but, of course, this does not approach the natural conditions for efficacy. A plain diet, free of alcohol and excess of carbohydrate, is all that need be enjoined. As regards drugs, the French tincture of iodine or extract of thyroid are often of great value. Salicylates are useless. Massage should be commenced early to combat the muscular wasting, which is such a constant feature of the disease. When the joints are swollen and inflamed they should be splinted in order to avoid contracture.

Finally, we have to consider what to do for the late cases of rheumatoid arthritis when the disease has run its course, but left in its wake stiff and contracted joints, producing a helplessness of such degree that the patient is dependent on a companion for her mobility and most elementary requirements. These cases are not hopeless, but you must remember that great damage has been done to the peri-articular structures and to the cartilage. The mechanics of the joint must first be attended to, and when these are corrected the joint surfaces must be separated so as to enable the cartilage to regenerate. Now, as the contracture of the rheumatoid joints is due to adhesions between, and shortening of the soft parts about the articulation, rather than to bony locking, the first step is to give your patient an anæsthetic and attempt to put the joint through its normal movements. With the exercise of a moderate degree of force adhesions will be felt and heard to break down, but one should be satisfied with an increase of range of 10° or less. If, dealing with the knee, the leg should then be fitted with an ambulatory splint such as I have here—(lecturer demonstrated three types of splint made by Mr. Ernst.) The principle of these splints, which weigh only four or five pounds, is to take the weight off the lower limb by taking the upper bearing against the tuberosity of the ischium, whilst the lower is fixed to the heel of the shoe. The stirrup over the instep is so arranged as to produce traction. Further extension of the knee joint is produced gradually by means of the screw fitted on each side, whilst the movement of the joint can be locked or set free by this ingenious lever, controlled by the single movement of one hand. Every two

months the leg should be further manipulated under anæsthesia in order to accelerate the process of straightening, and the muscles should be well massaged at the same time. When the knee is eventually extended the splint can then be lengthened, so as to draw the articular surfaces apart and allow regeneration of cartilage. Such an appliance must be worn for about two years, when it can be discarded, and the patient walk about freely without pain or limp.

As an example of the efficacy of this treatment let me tell you of a lady so crippled as the result of old rheumatoid arthritis that she had to be lifted bodily out of her car into a wheel chair and so pushed into my consulting room. By the way, all her teeth had been removed and her gastric juice was normal. By means of manipulation all her joints were given nearly full movement, and, having worn ambulatory splints for two years, she discarded them, and the last I heard of her was that she was riding a camel to the Pyramids.

Failures are more constructive. Thus, a nurse consulted me on account of a swollen and painful knee, in which there was an excess of fluid. The onset had been gradual, with no history of injury. I regarded the case as one of infective arthritis, and, full of enthusiasm, advised removal of obviously infected tonsils. She wisely took no notice of this advice and consulted an orthopædic surgeon, who said it was essential to limit the movement of the knee, and ordered a splint. Still sceptical, our patient visited a bone setter, who forcibly put the joint through its full range of movements. In a week all swelling and pain had disappeared, and it is now my lot to see this nurse almost daily as a healthy reminder of my mistake. What I did not appreciate was that pain, swelling and tenderness of a joint may be entirely due to the presence of synovial adhesions which, if broken down, cease to act as foreign bodies and the symptoms subside.

Realise, then, that contracted limbs ought never to occur, but that if present they can be overcome and the patient restored to a life of activity and often complete health.

News from the District.

(By Our Very Special Correspondent)

DEAR SIR,—being imboldend as I am by seeing in your magazine which I read regular every time an account of the doings of your good nurses which they do with there nursing and all I cant think as how they manage it.

I am as I say imboldened to ask you dear sir if I may have the honer of sending you this account in our *Gamps' Journal* which is not such a good magazine as your magazine is to put in your magazine perhaps please.

thanking you dear sir in hopfullness.

I remain your humble servant,

MARIA SHUFFLEBOTTOM.

10387, Jamaica Road.

EXTRACT FROM THE *Gamps' Journal*

At the Annual gathering of the Society of Associated Gamps of Bermondsey, Rotherhithe and Southwark at the "Golden Gorgonzola" in Snapdragon Crescent, Bermondsey, on June 1st, the prizes awarded for the past year were distributed by Mrs. Argyll Robertson, the Mayoress of Maze Pond, with her usual aplomb. The following prizes were awarded :—

Prize for Preserving the Prettiest Navel—Mrs. N. A. Beigh.

Prize for the largest number of Thermometers, Scissors, Stethoscopes and Squirts borrowed from the Doctors—Mrs. Nimbledigit.

Prize for the largest number of B.B.A.'s achieved —Mrs. McNutt.

Prize for the Greenest Waters—Mrs. Hardastle.

Special Prize awarded to Mrs. Cripes for bringing down a doctor to see a lady suffering from the dropsy.

Special Prize awarded to Mrs. Stillbottle for officiating as gamp at her own confinement.

After the Prizes had been given away, Mrs. Argyll-Robertson delivered this speech :—

"My pupils and sisters, on this highly suspicious occasion it is my bounding duty and pleasure to disgorge to you on all the notorious distractions gained by members of the Association during the past year.

This year has been no exclusion to the continued run of proliferous successes aggrieved by the prominent members of our learned and eremite procession."

[At this point there was a confused interruption from the back of the room, and in the hush following it Mrs. McNutt, who had already consumed most of her prize, was heard to say that she did not blank well see why Mrs. blank blank Still-

Kindly but short-sighted Visitor: "Would you like a Chocolate."

bottle should not open her blankety blank prize too.]

"It is indeed very despiteful to see so many old faces present, still beerful and bright and bearing every eminence of peremptory youth. One of the most confounding cabalistics common to all the members of the Association is the internal habit of looking on the bright side of things and not being downpressed or decast."

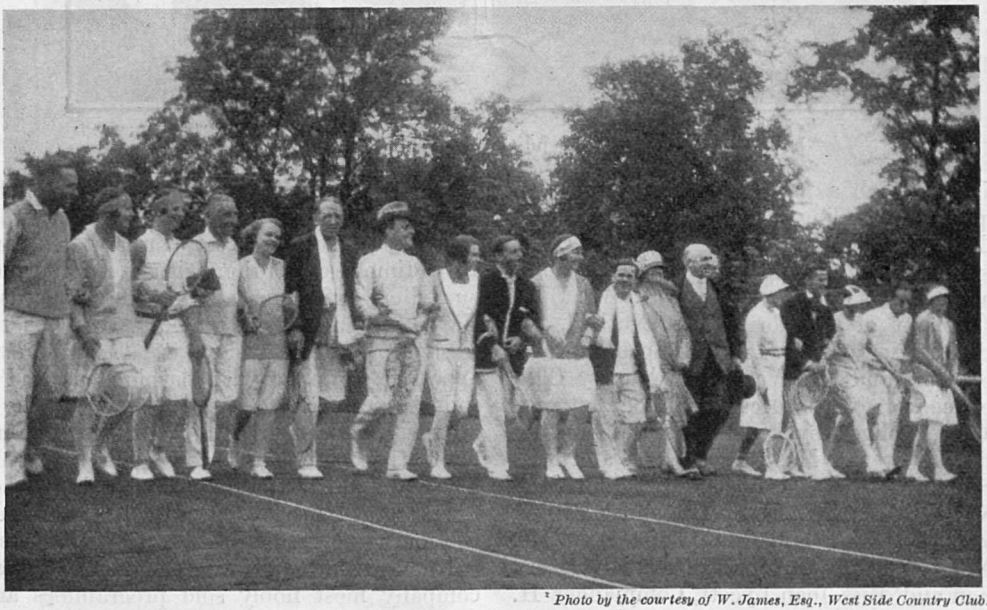
[Here there was a further interruption from the Matrons McNutt and Stillbottle, who had by this time taken sides in their dispute. The McNutt camp had succeeded in wresting Mrs. Stillbottle's prize from the other camp and were proceeding to knock the top off it, much to the disgust, vocal, physical and gustatory of the Stillbottleites.]

"I obscure furthermore that you secede in decorating such an admiral spirit of joyety and gayousness, although I am quite sure many of you must feel acutely anti-phlogisitic—[here the mayoress took a deep breath]—about certain cases on which you are engaged at present. This careless spirit is one which our members share with the dear doctors—[applause from Mrs. Shufflebottom, who was the only member of the audience still paying any attention to the Mayoress, and a murmur of "Such nice young men too and all."]

"But far be it from me to incur that this appropriation of your uniformal and omniverous cheerfulness be considered by any here present as an infatuation that a spirit of undue levigation profanes among our blessed sisterhood, or that a full sense of respondensy is not evanescent in our minds, keeping them severally straight in the paths of strict gamphood, which is unborn in them as it was unborn in their predestinators and in those who succeed them."

The Mayoress, being temporarily overcome by this unaccustomed amorphous mass of nebulous ineptitudes which appeared to be flowing from her lips, paused, and Mrs. Shufflebottom immediately took advantage of the pause to applaud vociferously and join the McNuttites, who appeared to be in temporary ascendency over the Stillbottle faction. The Mayoress, rather relieved at heart, took advantage of the unmistakeable lack of interest then being shown in her speech, and slipped quietly from the room. The meeting then proceeded smoothly with the usual private business.

Mr. Billy Merson's Challenge Tennis Match.



[1] *Photo by the courtesy of W. James, Esq., West Side Country Club.*

Rival Teams.

Reading from Left to Right—J. S. Ollife, Miss Gwen Sterry, Miss Marjory Clark, Com'dr Stoker, Miss Edna Best, Sir G. du Maurier, H. Welchman, Mrs. J. Lycett, C. H. Kingsley, Miss B. Nuthall, Billy Merson, Mrs. S. Nuthall, The Lord Mayor, Mayor of Ealing (behind), Miss Fay Compton, Mr. P. D. B. Spence, Miss Marjorie Gordon, H. Cochet, Miss Eileen Bennett.

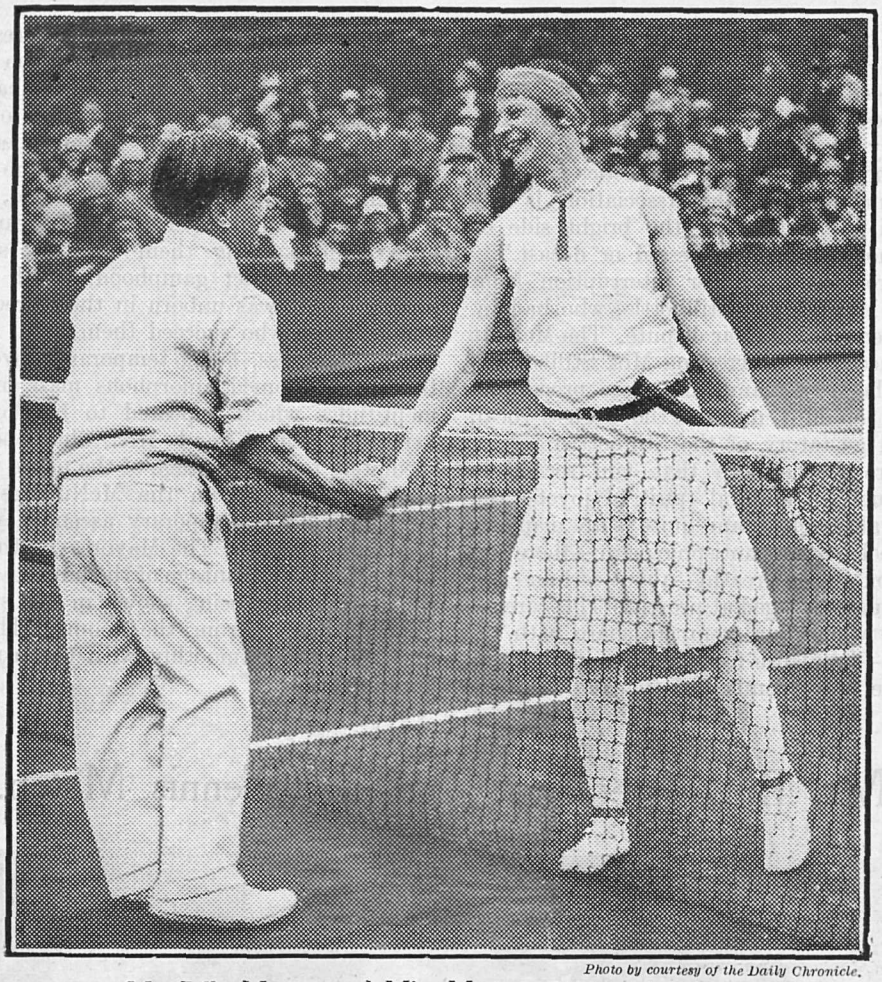


Photo by courtesy of the Daily Chronicle.

Mr. Billy Merson and Miss Marjory Clark make it up.

ON June 17th a mixed doubles match was played at Ealing in aid of Guy's between Mr. Billy Merson's and Mr. P. D. B. Spence's teams, each being composed of leading lights in the tennis and theatre worlds. Mr. Billy Merson thought of the idea. Mrs. Nuthall, Sir Gerald du Maurier and Mr. P. D. B. Spence organised the teams and the West Side Country Club lent their courts for the occasion. The Meteorological Office obliged by keeping the rain off.

The players were: Mr. Billy Merson and Miss Gwen Sterry, Sir Gerald du Maurier and Miss Betty Nuthall, Mr. P. D. B. Spence and Miss Fay Compton, M. Cochet and Miss Edna Best, Mr. J. S. Ollife and Miss Marjory Clark, Mr. Harry Welchman and Miss Joan Lycett, Commander H. G. Stoker, and Miss Eileen Bennett, Mr. C. H. Kingsley and Miss Marjorie Gordon.

Sir Gerald du Maurier played an excellent game of the subtle type and he and his partner, Miss Nuthall, were unbeaten. Mr. Billy Merson achieved the impossible by being really funny on a tennis court. He brought off some powerful shots over his shoulder, whilst looking the other way, but Miss Betty Nuthall nearly brought his career to an untimely conclusion with a drive which impinged on his bregma at a range of 5 yards. Miss Marjory Clark, whom we knew only as the excessively willowy widow of *The Fourth Wall*, appeared complete with flashing eye and blacksmith's biceps and proceeded to knock the covers off the balls and drive holes in the stop-netting. After the match proper we were treated to a men's double between Spence and Hawkes and Cochet and Kingsley. It would have been worth the journey to Ealing to see these two sets alone.

Nurses from Guy's and some of the *Show Boat* company most nobly sold programmes and distributed tea throughout the afternoon.

The ground was well filled and the Hospital received £430 from the gate money. The organisers hope to be able to repeat the match next year. We wish them every success.

E. C. J.

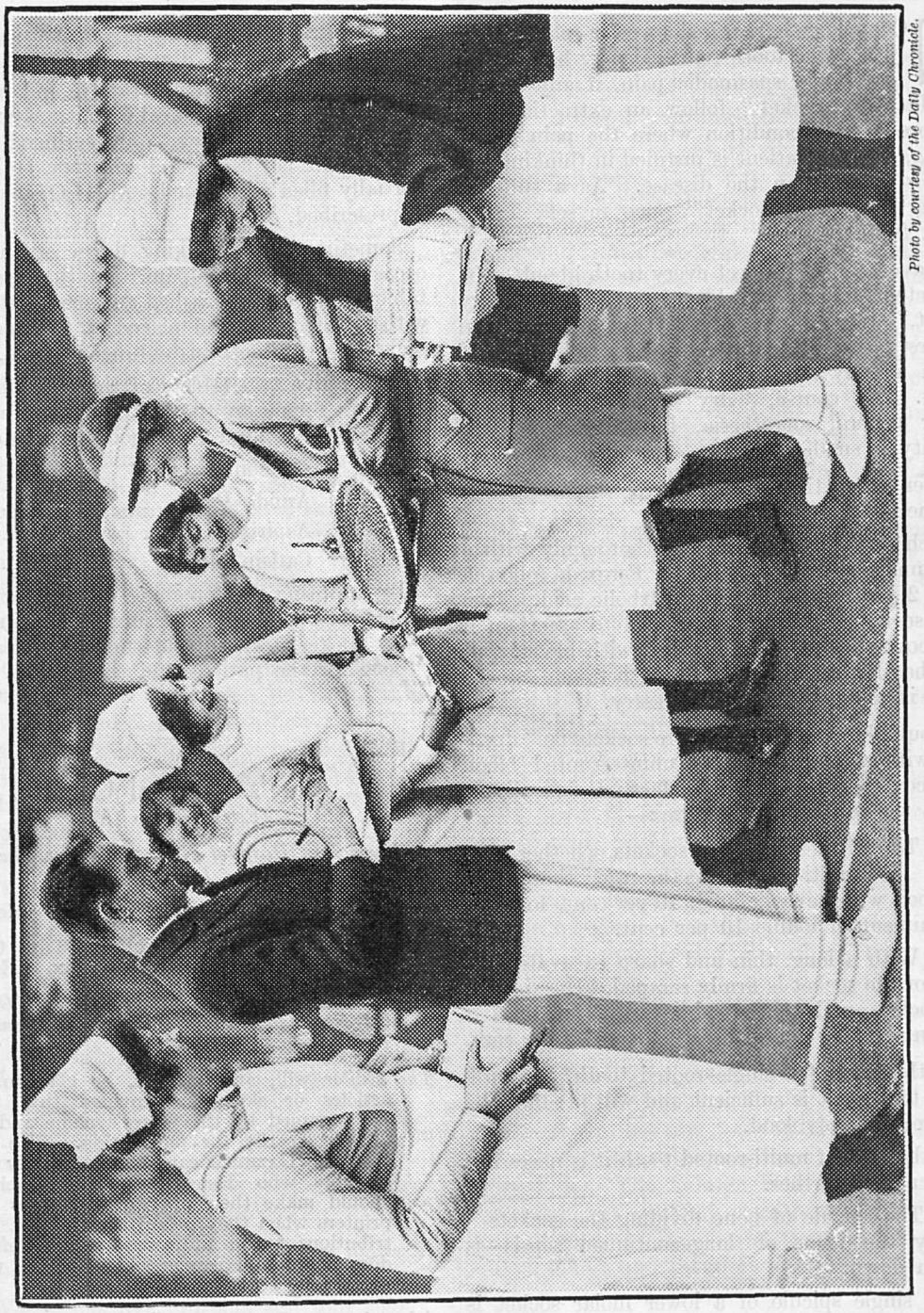


Photo by courtesy of the Daily Chronicle.

M. Cochet and Miss Eileen Bennett Oblige.

A few Notes on Dry Sockets. A Suggestion.

By Frank Popper, L.D.S., R.C.S.Eng.

NO apology is required to refer to this subject. The tooth removed may have given occasional spasmodic pain, if any at all. Should "dry socket" follow an extraction one has produced a condition where the pain is enduring, and the patient is justified in thinking the cure is worse than the disease. As a sufferer, having had "dry socket" once myself, I can speak feelingly.

I have come to suspect every tooth about to be extracted of being capable of producing a "dry socket," and apply prophylactic measures. In the first place, all local injections are to be avoided in an already septic mouth with long-standing decay. Of course, "dry sockets" occur also under general anæsthesia, but, I believe, the liability is smaller.

After extractions I make the following my routine :—

Each socket is syringed out thoroughly with a 5 volume solution of Hydrogen Peroxide followed by a 2 per cent. solution of carbolic acid. Then each socket is carefully examined to ascertain if it is covered and partially filled with blood. If that has happened, a hydrogen peroxide mouth wash is all that will be necessary.

Should, however, one or more sockets be "dry," *i.e.*, without a visible and uninterrupted blood film covering the whole surface, I *immediately* adopt the following procedure :—

(1) The affected socket or sockets, whether from single or multi-rooted teeth, are thoroughly swabbed with carbolic acid, 10 per cent. followed by liniment of iodine 10 per cent.

(2) With a long, thin and sharp excavator the apex of the socket is firmly scraped. The sides of the socket are best scraped with an elevator. It is then syringed out with carbolic acid 2 per cent.

In the case of a single-rooted tooth, the foregoing treatment is sufficient and will produce the required film of blood.

In the case of multi-rooted teeth it is necessary to go a step farther.

(3) The spicule of bone dividing the sockets—usually the focus of long-continued sepsis—is broken down.

The single spicule of a lower molar socket is easily removed with a pair of fine root forceps horizontally rotated

In the case of an upper molar socket the spicule is tri-planed. With an Ash 44S forcep each plane is gripped separately, and a twist of the wrist is sufficient to deal with it. After removal of the spicules the sockets are syringed with carbolic acid 2 per cent., and will soon be lined and partially filled with blood. An H_2O_2 mouth wash is prescribed.

Sometimes the breaking down of the spicule occasions slight after-pain. In that case an F. tablet of novocain, crushed and made into a paste with oil of cloves and placed at the apex of the socket gives almost instantaneous relief.

I also give two tablets of the following, which are made for me by the British Drug Houses, and which I have found to be good analgesics.

Each tablet contains :—

Amido Pyrin	2.5 gr.
Aspirin.....	2.5 gr.
Caffein Cit.	1 gr.

By adopting the foregoing method for the past 18 months I have not had a single case of intractable "dry socket" with its attendant unpleasantness—both for the patient and the dentist.

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Advertisement Rates on application to "The GAZETTE Manager," Counting House, Guy's Hospital, S.E.1. Telephone : Hop 1086.

A History of Dental and Clavicular Irregularities.

A Communication to the Guy's Hospital Dental Society by C. L. Stevens, L.D.S.Eng.

THE following case, I think, will be of value to this Society, not only for the number of interesting points that it raises, but also because, I think, no case similar to this one has ever been recorded.

Mrs. W——, 41 years of age, came to Mr. Lewin Payne's clinic on December 13th, 1927, complaining of pain of a neuralgic type in both jaws. She said that all her teeth had been extracted four years previously, and that she had been wearing full upper and lower dentures since that time. On examining her mouth it was found that she had thick ridges in both upper and lower jaws, and that the gums were in a hypertrophic condition. In the maxilla, palatal to the right lateral incisor region, was the tip of a tooth just showing through the mucous membrane. The X-rays showed that she had 8 unerupted teeth in her jaws. In the maxilla were 2 centrals and 2 supernumeraries. The 2 centrals were lying palatal to their normal position, and immediately behind them were the 2 supernumeraries, the right supernumerary having the tip of its crown just showing through the mucous membrane of the palate. In the mandible were 2 canines and 2 premolars. In the canine regions in the body of the bone were the 2 canines in a vertical position, and on the left side were the 2 premolars, lying horizontally, the first with its crown pointing towards the ramus, lying above the second, and the second with its crown pointing towards the canine lying below the first, arranged like sardines. Mr. Lewin Payne removed the upper teeth on February 2nd, and the left canine and premolars four days later under a general anæsthetic. All the teeth had a thick fibrous capsule around them, in particular the upper left central, and this came away with the tooth. When Mrs. W—— first came up to the clinic she mentioned that she had been in another hospital and that the doctors there had been very interested in her as she only had a part of her right clavicle present. The following family history was then obtained from her.

Mr. W——, her father, has a part of his right clavicle missing, and has had dental irregularities.

Mrs. W—— has five brothers and four sisters. The brothers I am going to call B1–B5, and the sisters S1–S4.

B1 has a part of one clavicle missing and a history of dental irregularities.

B2 has a part of one clavicle missing. He is five years younger than Mrs. W——, and had all his teeth extracted about the same time as Mrs. W——. Four years later the two upper centrals erupted. He has two children, a boy and a girl. The boy has normal clavicles and has had no dental trouble. The girl, aged 13 years, has a part of one clavicle missing. She had all her temporary teeth extracted at the age of 7, and, so far, her permanent teeth have not erupted.

B3 and B4 have part of one clavicle missing and a history of dental irregularities.

B5 has normal clavicles, but a history of dental irregularities.

S1 has a part of her right clavicle missing, with a history of dental irregularities. She has a boy with parts of both clavicles missing, also with a history of dental irregularities.

S2 has parts of both clavicles missing, with a history of dental irregularities.

S3 and S4 have normal clavicles and no history of dental irregularities.

Mrs. W—— has had 13 children, 10 of which are alive. I will call these children W1–W10.

W2, aged 17 years, male, is believed to have part of right clavicle missing, but has no dental irregularities.

W4, aged 14 years, female, has part of right clavicle missing. Permanent teeth have not yet erupted. Is one of twins, the other died at birth. She is a cripple.

W5, aged 13 years, female, W6, aged 10 years, male, W9, aged 5 years, female, and W10, aged 3 years, female, have both clavicles normal and no dental irregularities.

The above history was obtained from Mrs. W——, and therefore may not be accurate in every detail. The children W1, W3, W7 and W8 I mention last, as they were brought up to the hospital to be examined and to have models and X-rays taken, and therefore their history may be taken as being correct.

W1, aged 19 years, male, has parts of both clavicles missing. He has the following teeth

present in his mouth: Upper left, 76E*DCBA; upper right, ABCD67; lower left, 7654CBA; lower right, ABCD567. This X-ray shows that he has the following teeth unerupted: Upper left, 854321; upper right, 12345 8; lower left, 8 321; lower right, 1234 8, together with two supernumeraries in the upper incisor region and one supernumerary in the molar region.

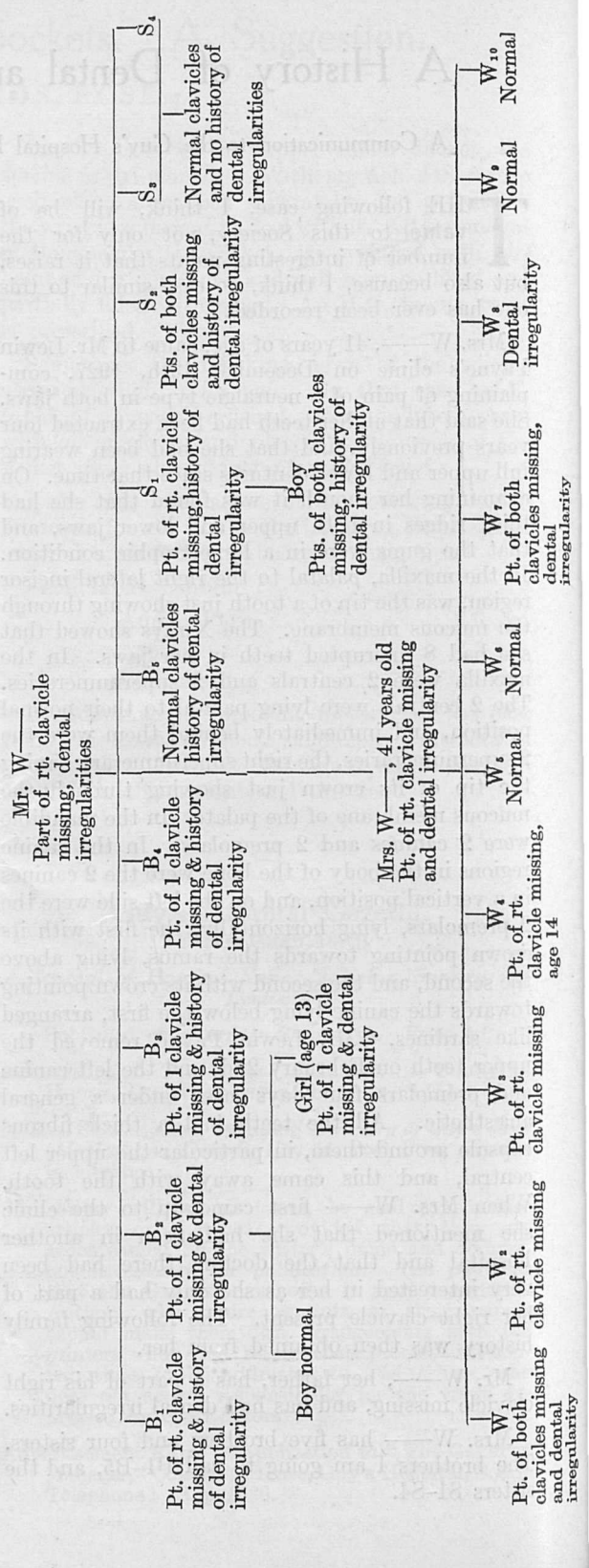
W3, aged 17 years, female. Has a part of her right clavicle missing. After being X-rayed she failed to come up to Mr. Lewin Payne's clinic, so no clinical record of the condition of her mouth has been obtained. The X-ray report says that all her teeth are present, together with two supernumeraries in the upper central incisor region. The upper left 4 is oblique and almost horizontal in position, the long axis being in the coronal plane.

W7, aged 8 years, female. Has parts of both clavicles missing. All her temporary teeth have erupted and she has a supernumerary in the upper left lateral incisor region. The X-ray report says that all the permanent teeth are present, together with the following supernumeraries: Left upper, 2 1; right upper, 2; left lower, 3; right lower, 3.

W8, aged 6 years, male. Has both clavicles present. All his teeth are present, but the upper left temporary central and lateral show true germination, as their crowns are fused together. This child is one of twins, the other having died at 5 months.

The extra teeth present in this family I have purposely called supernumeraries in every case, although, I think, in some cases it could be argued that they were supplemental teeth. I do not think the absence of a part of the clavicles has anything to do with the dental irregularities, as in some cases the clavicles are normal and the dental complications are still present. It may be that in generations past a member of a family who had hereditary suppression of parts of the clavicles married into a family who had hereditary dental irregularities. It is conceivable that the children of such a marriage might have the loss of parts of their clavicles with or without dental irregularities, the first condition having no influence over the second condition.

I am indebted to Mr. Lewin Payne for lending me the models and to Mr. Worth for the use of the X-rays.



* Root of a Tooth.

Reviews.

The Revolt of Modern Youth. By JUDGE BEN LINDSAY and WAINWRIGHT EVANS. Published by Messrs. Brentano's, Ltd. *Price* 10*s.* 6*d.*

THAT our present social system is charged with hypocrisy, cruelty, selfishness and inequality is constantly demonstrated by our newspapers, law courts, divorce courts, etc.—and as constantly ignored. Chastise and crush the individual—his the fault, let his shoulders bear the blame—and we are absolved. We ruthlessly brand the citizen with the stigmata "criminal," "adulterer," "illegitimate," and that, too, with some ancient superstitious belief that punishment is an effectual and just deterrent to what we are pleased to call crime and immorality. There is much evidence to suggest that the majority of first offences against accepted standards, especially in youths, do not arise from a malicious desire to do a definite wrong; they are the outcome of faulty education, fallacious reasoning, or a severe environment against which these laws are unduly cruel. We know full well, if we are honest, that it would not take an improbably harsh combination to lead us into the same deeds.

To punish a citizen for a deed which he considers rational will embitter him against our social schemes. He will feel a double wrong to be avenged. Thus, the two objects of punishment, to prevent repetition and thus protect the law-abiding, are improbable sequelæ. The doctrine of fear will produce cowards and knaves, not robust workers for the common weal. Convince these offenders of error, of a duty to re-establish themselves, of a tolerant system that wishes to dispense a charitable justice, and there is some prospect of instilling a conception of, and desire for, good citizenship.

There has been no lack of voices crying in the wilderness; it is our national conservationism, our comfortable laziness that blocks the door to our minds and reduces the discordant voices of the prophet to a restful murmur that but soothes and amuses. Let them preach revolution—if no one heeds, our equanimity is secure.

Judge Lindsay has not been content. Some thought of the possible improvements to be attained persuaded him to advocate for a juvenile court in Denver that should be based upon the teachings of our psychologists, practical philosophers and physiologists. More by the force of personal character than by reason he was permitted to test these theories. During the 25 years that this court has been in construction, he has gradually convinced the people of Denver by his success that he has a better solution to existing social difficulties than that offered by the present regime. He has received increasingly generous support, even to the extent of large monetary grants.

Any change in the present moral code, be it good or bad, must be considered *ipso facto* by the majority as immoral. It is only when the majority agree that it is the best code that it can become moral in a legal sense. Judge Lindsay has investigated a proposed change, and as far as his evidence goes found that it is an improvement. It is now our duty to balance this evidence and, should we be convinced, to endeavour to make this the code for the majority.

I have bought several copies for circulation amongst those who might wish to read without expense.

Medical Bacteriology, Descriptive and Applied, including Elementary Helminthology. By L. E. H. WHITBY, M.A., M.D.(Camb.). Published by Messrs. J. & A. Churchill, Ltd. *Price* 10*s.* 6*d.*

MOST works on this subject are written by specialists presumably for specialists for although the clinical aspect is consistently neglected, the opportunity for a little dorsal friction of a mutual character is but rarely refused. Dr. Whitby has taken a chance, deserted his professional brethren, and produced a book for the student, who, harassed by the immense scope of the modern examination, wants his bacteriology rolled into a neat pill that will assist digestion of the clinical porridge he is forced to consume in bulk; he has no time for bacteriology as a separate course in his already extensive meal.

A series of opening chapters deals with the biological and pathological properties of bacteria, methods of cultivation and staining, together with the theory and technique of the main serological reactions. A short section on common contaminating organisms is followed by consideration of the main groups of pathological bacteria in orderly fashion, their clinical manifestations being duly stressed in each case, while the human mycoses and the filter passers are not forgotten. Bacterial preparations such as vaccines, toxins and sera are next dealt with, and their mode of use fully described. Excellent accounts of protozoal and helminth infections precede a chapter on laboratory aids in the diagnosis and treatment of individual

diseases in which the various sections have a convenient arrangement in alphabetical order. A summary of bacteriology as applied to water, milk and food concludes the volume.

Many debateable points like the bacteriology of the common cold and the pathology of phlyctenular conjunctivitis are dealt with in a dogmatic manner, but not unsuitably considering the scope of the book. The printing is good, the text unusually readable, and the 75 illustrations of excellent quality, while the absence of plates in colour has undoubtedly kept the price at a moderate level without detracting from the usefulness of the work.

The Early Diagnosis of the Acute Abdomen. By ZACHARY COPE, B.A., M.D., M.S.Lond., F.R.C.S. Eng. 5th Edition. Published by Messrs. Humphrey Milford, Oxford University Press. *Price* 10*s.* 6*d. net.*

THE fact that this book has gone into five editions since it was first published in 1921 speaks for itself in regard to the appeal it has made to the profession. This edition varies little from the fourth, the only alterations being some amplification of the section on peritonitis and the addition of a section on retroperitoneal conditions, and a few paragraphs on obstruction of the small intestine.

It is eminently a practical book, dealing as it does with all the conditions which the take-in house surgeon must bear in mind when he is called to see an acute abdomen in the surgery, and entering with considerable detail into the finer points of differential diagnosis. We should like to make one small point of criticism with regard to the scheme of using two introductory chapters for dealing with clinical methods of diagnosis—getting the history and examining the patient. We feel that these methods, admirable as they are in themselves, would be more suitably included in the chapters on the specific conditions met with, so as to impress upon the student the particular clinical methods of importance in excluding or confining the presence of any particular condition. The stress laid upon the importance of excluding states other than those constituting an acute abdomen, particularly an early pneumonia, is of vast importance when we remember that a certain number of pneumonias are still taken into surgical wards each year.

Altogether, we can thoroughly recommend this edition, as we have recommended previous editions, to anyone who is not fully acquainted with the book, and it should especially appeal to house surgeons and senior dressers.

The Treatment of Pulmonary Tuberculosis. By Dr. MARC JAQUEROD, S.F.D. Revised by S. P. SILBERBAUER, M.D., F.R.C.P. 2nd English Edition. Published by Messrs. Baillière, Tindall & Cox. *Price* 1*s.* 6*d.*

THIS small book commences with the dictum that "to recover from tuberculosis the patient should become his own physician," and goes on to affirm that "no fool was ever cured of phthisis." What is really a short brochure directly addressed to the intelligent patient with the excellent object of stimulating interest in the rationale of the treatment of his own case has been produced by a free translation of a similar work from the pen of the expert in charge of one of the treatment centres at Leysin. The contagious nature of the disease and the precautions this necessarily entails are first impressed upon the patient, then the essentials of the advocated treatment, which are given as: (1) Absolute rest, (2) open-air life in a bracing and stimulating climate, (3) a substantial body-building diet, (4) the strict observations of the laws of hygiene.

Details of the control of the rest required, the indications for and against exercise, and much sound advice as to dietary follow. A short chapter on rational hygienic measures concludes the work.

The advantages of Alpine climate are everywhere stressed, but no misleading statements are made with regard to heliotherapy. The disadvantage of high altitudes in some cases is not mentioned, and the value of artificial pneumothorax, especially in disease localised to one lung, receives no attention whatever.

Should this hygieno-dietetic line of treatment be adopted, and there is no doubt that it gives excellent results, the patient concerned must derive great benefit from a reading of this small volume.

The Clinical Examination of the Lungs. By E. M. BROCKBANK, M.D., F.R.C.P., and A. RAMSBOTTOM, M.D., F.R.C.P. 2nd Edition. Published by Messrs. H. K. Lewis & Co., Ltd. *Price* 5*s.*

A SECOND edition of this well-known handbook has been revised and slightly extended to include new matter in the shape of life insurance statistics, a section on referred pain and a series of excellent radiograms, the original groundwork of physical signs remaining almost unaltered. In plan the book is built up on the author's own routine methods in the clinical examination of the chest. A brief account of subjective symptoms is followed by a detailed consideration of objective signs. The examination of pulse temperature and respiration precede in the usual way the routine of inspection, palpation,

percussion and auscultation. A final and rather sketchy chapter is devoted to physical signs in common pulmonary diseases.

The teaching here given on physical signs is eminently sound and easy to follow in relation to the numerous illustrative diagrams. The method adopted involves considerable repetition in parts, but will not be unacceptable to the beginner in the medical wards. A section on glandular tubercle in the chest and some mention of cardio-respiratory murmurs might be included with advantage, but as it stands the work is quite full enough for average needs.

Briefly, a book for the medical ward clerk who likes to read up his physical signs in a handy volume, as well as hear about them from the registrar at the bedside.

Some Principles of Diagnosis, Prognosis and Treatment: A Trilogy. By ROBERT HUTCHINSON, M.D., F.R.C.P. Published by Messrs. John Wright & Sons, Ltd. *Price* 2*s.* 6*d.*

TWO lectures, one recently published in the *British Medical Journal*, and the other in the *Lancet*, combined with a chapter from the author's well-known *Elements of Medical Treatment*, form this very readable little volume.

Dr. Hutchinson invariably brings to his medical writings refreshing originality coupled with an amazing fund of quotation, a combination that makes for entertainment as well as for instruction. Of the present trilogy, probably the first essay, that on diagnosis, will most impress the reader. From the opening declaration of diagnosis as a matter of faith, of prognosis as a question of hope, and of treatment as too often an affair of charity, to the concluding set of "Dont's for Diagnosticians" there is not one dull moment. The two following essays are less interesting only by comparison with their brilliant predecessor.

At half-a-crown this small volume is decidedly a good investment.

THE last number of that most tasteful of all magazines, the *Connoisseur*, has a special article by Mr. C. J. S. Thompson, M.B.E., on "Historical Portraits at the Royal College of Surgeons of England." Ten portraits are reproduced in half-tone and one in chrome, making, with a decorative display of the arms of the College, a dozen illustrations all told. These are most interesting: Percival Pott, by Romney (full page); Richard Wiseman, attributed to Gerbier; William Cheselden, by Jonathan Richardson; Sir William Blizard, by Opie; John Belcher, by Ozias Humphry; Sir Cæsar Hawkins, by Hogarth; John Hunter, by Reynolds; John Hunter, by R. E. Pine; William Cumberland Cruikshank, by Gilbert Stuart; Sir Astley P. Cooper, Bart., by Lawrence; and a miniature of Abernethy, by W. Hunt, after Lawrence. The arms of the College are very carefully done by Mr. Fred Roe, R.I.

To these plates—which have an average size of 6 inches by 5 inches—Mr. Thompson gives a descriptive text in entertaining fashion, each portrait being outlined by historical data and biographical allusions. The story of beginnings is briefly sketched in introduction of the "Mystery and Commonality" which to-day is neither common nor mysterious.

A series of articles on Her Majesty's collection of lace begins in this number, which, with 230 illustrated pages, has three full-page plates in colour. Price 2*s.*

Sport.

Cricket.

Inter-Hospital Cup.

1st Round.

Guy's *v.* King's.

PLAYED at Denmark Hill on Tuesday, June 5th, and resulted in a win for Guy's by 5 wickets.

Our opponents batted first on a tricky wicket and were all out before lunch for a total score of 64, O'Shea taking 6 wickets for 19 runs.

Guy's batted quite steadily before lunch, but then wickets fell rapidly, the ninth being down for 57 runs. Spence, however, saved the situation, the tenth wicket falling at 76.

For King's, Kerr bowled extremely well, taking 7 wickets for 19 runs.

In the second innings King's scored 138, Guy's replying with a total of 131 for 5 wickets, Garland scoring a useful 55 before being run out.

Scores—Guy's, 76 and 131 for 5 wickets; King's, 64 and 138.

Guy's

1st Innings

R. J. Eustace, l.b.w. b. King	5
S. R. Peatfield, b. Kerr	12
E. V. B. Widdowson, c. & b. King	17
T. P. Witherow, run out	3
T. O. Garland, b. Kerr	2
F. H. B. Spence, not out	16
A. J. Lewis, b. Kerr	3
J. Durr, b. Kerr	0
R. A. P. Hogbin, b. Kerr	6
S. M. Whitteridge, b. Kerr	0
J. P. O'Shea, c. Ledger, b. Kerr	7
Extras	5
Total	76

2nd Innings

R. J. Eustace, b. Coombes	23
S. R. Peatfield, c. Coombes, b. Taylor	14
E. V. B. Widdowson, b. Coombes	0
T. P. Witherow, b. Sheldon	8
T. O. Garland, run out	55
F. H. B. Spence, not out	26
A. J. Lewis, not out	1
Extras	4
Total (for 5 wkts.)	131

J. Durr, R. A. P. Hogbin, S. M. Whitteridge and J. P. O'Shea did not bat.

Bowling

1st Innings—O'Shea 6 for 19, Whitteridge 2 for 34, Durr 2 for 5.

2nd Innings—Durr 3 for 69, O'Shea 3 for 20, Lewis 4 for 23.

Semi-Final.

Guy's *v.* University College Hospital.

THIS match was played at Perivale on June 22nd, and resulted in a win for Guy's by 112 runs.

Guy's won the toss and batted first, Cameron and Peatfield opening the innings. The first wicket fell at 5, Cameron being caught by Mann. Garland and Peatfield, however, made a good stand and both batted well to make 47 runs each, the former scoring three sixes. Spence also played a good innings for the Hospital before being caught at point by Mitchell.

The last wicket fell at 226.

Our opponents replied with a total of 114, of which Newstatter scored 49. At first they scored rapidly, but after the fifth wicket had fallen, runs seemed more difficult to obtain. Both O'Shea and Lewis bowled well for Guy's, the former being especially good.

The fielding on the whole was good, and Garland kept wicket remarkably well.

Scores—Guy's, 226; U.C.H., 114.

Guy's

H. Cameron, c. Mann, b. Naz	3
S. R. Peatfield, b. Newstatter	47
T. O. Garland, b. Naz	47
T. P. Witherow, c. Robeiro, b. Newstatter	16
F. H. B. Spence, c. Mitchell, b. Fernandez	45
R. J. Eustace, b. Naz	0
E. V. B. Widdowson, b. Naz	2
A. J. D. Lewis, c. Fernandez, b. Newstatter	20
J. Durr, l.b.w. b. Pearce	15
S. M. Whitteridge, b. Stratford	0
T. P. O'Shea, not out	10
Extras	21
Total	226

Bowling—O'Shea 5 for 38, Durr 1 for 48, Lewis 3 for 8.

Guy's *v.* The Occasionals.

PLAYED at Honor Oak Park on Wednesday, May 30th, resulting in a drawn game. Our opponents batted first and scored 199 for 9 wickets before they declared (Battcock 58, Van Schalkwijk 33, Flint 32). Guy's batting was fairly consistent, Roe scoring a valuable 33 not out.

Scores—Guy's, 153 for 8 wickets; The Occasionals, 199 for 9 declared.

Guy's

T. O. Garland, c. Lindsay, b. Van Schalkwijk	9
H. Cameron, b. Battcock	26
H. Spence, b. Schalkwijk	10
R. Eustace, b. Battcock	19
E. V. B. Widdowson, b. Flint	12
J. Durr, b. Battcock	16
W. P. Roe, not out	33
W. D. Jones, b. Gilliand	0
A. J. D. Lewis, not out	13
Extras	16
Total (for 8 wkts.)	153

S. M. Whitteridge and P. O'Shea did not bat.

Bowling—O'Shea 4 for 27, Durr 3 for 79, Cameron 2 for 18.

Guy's *v.* Bromley.

THIS match, which was played at Bromley on June 16th, resulted in a win for our opponents by 1 wicket.

Scores—Guy's, 145; Bromley, 150 for 9.

Guy's

F. H. B. Spence, b. Marriott	49
T. Witherow, c. & b. Moore	24
R. J. Eustace, run out	0
E. V. B. Widdowson, b. Fraser	2
A. J. D. Lewis, b. Fraser	0
W. D. G. Jones, b. Moore	22
W. P. Roe, not out	25
R. A. P. Hogbin, l.b.w. b. Moore	0
J. P. O'Shea, c. Newman, b. Marriott	3
S. M. Whitteridge, b. Moore	0
Sub., b. Moore	4
Extras	16
Total	145

Bowling—O'Shea 4 for 28, Lewis 2 for 9, Witherow 2 for 38, Whitteridge 1 for 34.

Guy's *v.* Catford Wanderers.

THIS match was played at Honor Oak Park on Wednesday, June 13th, resulting in an easy win for Catford Wanderers. Our opponents batted first and scored 231 for 6 declared. At one time the score was 77 for 6 (K. H. Smith 102 not out and C. Pangfoss 49 not out).

For Guy's both Spence and Peatfield batted well, the former scoring 37 and the latter 54. After the fourth wicket had fallen for 112, there was a collapse, the side being out for 135 runs.

Scores—Guy's, 135; Catford Wanderers, 231 for 6 declared.

Guy's

F. H. B. Spence, b. Miller	37
R. J. Eustace, c. Scars, b. Henderson	0
C. R. Peatfield, c. Sears, b. Miller	54
T. P. Witherow, b. Smith	7
E. V. B. Widdowson, b. Smith	7
A. J. D. Lewis, b. Smith	0
—. Pringle, c. & b. Miller	7
R. A. P. Hogbin, c. Lawrence, b. Smith	1
W. D. G. Jones, b. Smith	4
P. O'Shea, b. Smith	4
S. M. Whitteridge, not out	1
Extras	13
Total	135

Bowling—O'Shea 3 for 74, Whitteridge 2 for 56, Witherow 1 for 57.

Guy's *v.* Old Charlton.

THIS match, which was played at Charlton Park on Saturday, June 9th, resulted in an easy win for our opponents. The fact that Guy's only scored 30 runs was mainly due to the fine bowling of Martin, who took 7 wickets for 8 runs, including the "hat trick."

Scores—Guy's, 30; Old Charlton, 171 (H. Baxandale 36).

Guy's

T. P. Witherow, b. Martin	7
R. Eustace, b. Martin	6
F. H. B. Spence, c. Stout, b. Shrimpton	3
E. V. B. Widdowson, b. Martin	0
T. O. Garland, b. Martin	7
R. J. D. Lewis, b. Martin	3
S. M. Whitteridge, b. Martin	0
J. Durr, b. Martin	0
R. Hogbin, c. Lee, b. Shrimpton	0
J. Jones, run out	0
P. O'Shea, not out	0
Extras	4
Total	30

Bowling—O'Shea 2 for 31, Durr 5 for 57, Whitteridge 1 for 10, Hogbin 1 for 7, Witherow 1 for 27.

Guy's *v.* Wimbledon.

THIS match was played at Honor Oak Park on June 23rd and resulted in a win for Wimbledon after an exciting finish.

Guy's won the toss and elected to bat. After the fall of the first wicket for 3 runs, Peatfield and Witherow made a useful stand. At the tea interval the innings was declared closed, the score being 216 for 6 wickets.

In this match the bowling was considerably weakened by the absence of O'Shea, Durr, Lewis and Whitteridge.

Our opponents took advantage of this fact and replied with a total of 222 for 5, the rapid scoring being mainly due to the fine first wicket partnership by Steward (78) and Robins, who put on 107 runs for the first wicket. The Hospital fielding was not up to the good standard shown in previous matches.

Scores—Guy's, 216 for 6 (dec.); Wimbledon, 222 for 5.

Guy's

R. Cameron, c. ——, b. Goodfellow	0
S. R. Peatfield, c. ——, b. Fitz-Archer	71
W. D. G. Jones, hit wkt., b. Goodfellow	3
T. P. Witherow, b. Walter	38
T. O. Garland, c. ——, b. Fitz-Archer	39
R. J. Eustace, not out	20

E. V. B. Widdowson, c. ——, b. Walter	12
J. B. Schofield, not out	4
Extras	30
Total (for 6 wkts.)	217

Fulford, Richards and Leckie did not bat.

Bowling—Eustace 3 for 46, Witherow 1 for 8, Garland 1 for 74.

Guy's *v.* Wellingborough Masters.

THIS match was played at Wellingborough on June 20th, and resulted in a win for the Hospital by 41 runs.

Cameron and Witherow opened the innings for Guy's and together made a good first wicket stand, the former scoring a valuable 61 before being out l.b.w. to Door. Both Witherow (37) and Jones (39 not out) also batted well for the Hospital. Guy's were all out for a total of 220.

Our opponents replied with a total of 179, Stokes batting well for his 73.

Scores—Guy's, 220; Wellingborough Masters, 179.

Guy's

H. Cameron, l.b.w. b. Door	61
T. P. Witherow, c. Barratt, b. Draker	37
W. P. Roe, l.b.w. b. Richmond	7
R. J. Eustace, b. Draker	9
E. V. B. Widdowson, c. Door, b. Draker	6
A. J. D. Lewis, b. Lewis	12
W. D. G. Jones, not out	39
J. B. Schofield, run out	9
R. A. P. Hogbin, c. Barratt, b. Draker	4
R. M. Outfin, b. Draker	0
J. P. O'Shea, st. ——, b. Door	17
Extras	19
Total	220

Bowling—O'Shea 3 for 45, Jones 3 for 32, Cameron 1 for 30, Schofield 1 for 37, Hogbin 1 for 0.

Rowing Club.

FOR the first time since the Hospital race was rowed in light eights, Guy's were defeated this season. It was also the first occasion on which three eights had competed, for though St. Mary's entered last year they did not turn out. The surprise entry was from St. Thomas's, who had not rowed previously even in fours, but they evidently took advantage of having a surprising number of good oars in residence, and put on a really fast crew, which was stroked by A. P. McEldowney, who, when stroke of the Selwyn College eight at Cambridge, took his crew up a record number of places; he has since been rowing for Thames R.C. At "seven" he had H. M. Yardley and at "four" K. N. Irvine, a Trial Cap and brother of the Blue who lost his life on Mount Everest.

The other entry was, as usual, from St. Bart.'s, and the general form shown was easily the best within memory. Bart.'s, in fact, pushed Guy's very hard, and the latter two crews were never more than half a length away from one another throughout the 2 mile course, whilst at times Bart.'s led.

In a sense the defeat of Guy's was disappointing, since they were represented to all intents and purposes by the crew which has served the club so well for the past four years, and as the composition of it will now be seriously depleted, it was a pity that they could not conclude their spell unconquered. The main reasons that they failed were, first, that the winning crew was faster, and probably would have beaten them in previous years, and, secondly, that Guy's were rather short of training. Indeed, the eight as it rowed had probably not been out for coaching more than 10 times, which meant hurrying them up to a racing frame of mind before they were really ready. Training had also been carried out almost entirely in heavy rain, coach being rather handicapped by personal discomfort in his efforts to give them undivided attention. Finally, the crew could not get out at all on the Monday before the race, and two days without practice can scarcely have improved their chance.

However, these considerations probably applied almost as much to Bart.'s and St. Thomas's, and it is no part of a commentator's duty to make excuses.

The race itself took place in rain and Guy's had the centre station, Bart's having Middlesex, which was the worst, and St. Thomas's Surrey, which was the best. Guy's got a poor start; in fact, they had never got off anything like so badly in practice. This so upset their form in the first minute that plans went wrong. It had been intended to make a great effort in the second half of this first minute, but it was impossible to correct the form of the crew in time, and over the first half mile Guy's were down on St. Thomas's and having a desperate struggle with Bart.'s on the other station.

This continued past the boat houses and Beverley Brook, where St. Thomas's began to draw away, being a length up at the Mile Post.

Guy's had by this time settled down and were rowing well. Bart.'s were having a hard struggle to keep level at a higher rate of striking, but

hereabouts spurted and got a slight lead. Ryde held on to them well and a little later reached the Crab Tree, where he spurted and gained quickly on Bart.'s, who appeared to crack. However, they recovered later and Guy's could never drop them. Ryde then took a breather and had a look at St. Thomas's. By this time St. Thomas's, however, were two lengths up, but Ryde nevertheless went for them with good heart, and began to go up. McEldowney was either content with his lead or unable to respond, for he allowed Guy's to creep up appreciably. In the last 100 yards, however, he seemed to draw away again, and won by two lengths, Guy's being quarter of a length up on Bart.'s. It was the closest race we have ever had with them, for which a good deal of the credit must go to Oxley, of the London R.C., who was their captain, and rowed a fine race at "six."

In the fours Guy's appeared to have no chance, London Hospital having entered a really good four, which included a Leander man at three. It was a heavy crew and appeared likely to leave the inexperienced Guy's four far behind. To the general astonishment, however, the Guy's men held on to them by sheer determination, and London were quite unable to get away, in addition to which they were steered too far over and got out of the tide. Guy's, indeed, were dead level after three-quarters of a mile, and with the best of the course seemed likely to bring off a sensational upset of form and win, when stroke came off his slide and had to stop for three strokes while he got on again. This allowed London to get away and although Guy's at once went after them and at one time appeared to have caught up again, they drew away at the end and won by 2 lengths after a really exciting race.

The fact that two hospitals who have not entered since the war have now done so and lifted both Cups should give a real impetus to interest in this event, for Guy's are unlikely to have anything like such a good crew next season, and the chances should in future be very open.

Characters of the Crew

E. T. Clifton (bow)—One of the veterans of the eight, and a man to whom much of the credit is due for the successes Guy's have gained since he was first concerned with the Rowing Club. He is far from being a stylish oar, and, in addition, is short, but he is a good waterman, and therefore a useful bow. Above all he is one of the most consistent "shovers" in the boat, in which connection he may be compared with one or two well-known oarsmen who have rowed ugly but powerful blades.

C. G. Townsend (2)—A man who deserved his place by reason of his enthusiasm and "guts"; in the closing stages of this year's race he was probably rowing with greater determination than anybody else in the boat. In style he has never struck smoothness and has one or two faults which should be eradicated, such as the weak finish of his blade, but his heart is all that could be desired.

G. G. Ellis (3)—More stylish than either bow or 2, but not quite such a "shover" as either. This is often the way; in this respect, indeed, the bows are quite well balanced. Experienced and never loses his head.

F. H. Stevenson (4)—A very keen secretary, whose efforts in the race did not appear to suffer from his responsibilities before and after. He would improve rapidly with regular coaching, for he is hard working, but inclined to use his arms at the expense of his legs, and, owing to his build, is a little too short to row 4.

K. S. Keele (5)—Another veteran, a key-man in the crew for several years, and in the past has proved an ideal 7. In this respect he may have been a little lacking in power to be the perfect 5, but he rows consistently well anywhere, whether fit or unfit, and in holding the crew together his steadiness is invaluable.

W. H. Miller (6)—One cannot imagine him rowing anywhere else. A keen captain and a born 6. The most consistent oarsman of all. Indeed, whether in practice or the race Miller never seems to vary his puddle. No rate of striking disturbs him, and in the course of the race he did not appear to row one weak stroke.

E. Clayton-Jones (7)—His coolness and style make him a good 7, and he backed up stroke well in the race. At times he seemed to have deteriorated from his exceptionally good form of previous years, noticeably in rowing with bent arms, but he improved again before the eventful day and was of particular use to stroke in getting up the rate of striking.

L. T. Ryde (stroke)—Although short of training his first appearance in the boat marked him as the very man the crew needed. He at once infused life and rhythm into a crew in danger of becoming heavy handed, and had he enjoyed another fortnight's training he would have got them up to concert pitch. He stood the long course well, and his own form was an example to everybody. The bad start may have rattled him, but if so he had certainly pulled the crew together again by the Mile Post.

P. V. Reading (cox)—As an inexperienced man he did remarkably well, and when hemmed between two crews kept his head and his course perfectly. A very useful discovery.

CREWS

Guy's

Bow E. T. Clifton.
2 C. G. Townsend.
3 G. G. Ellis
4 F. H. Stevenson.
5 K. S. Keele.
6 W. H. Miller.
7 E. Clayton-Jones.
Stroke L. T. Ryde.
Cox P. V. Reading.

St. Thomas's

Bow G. S. Storrs.
2 D. Birt.
3 L. Rees.
4 R. H. Franklin.
5 K. N. Irving.
6 R. R. Maynard.
7 H. M. Yardley.
Stroke A. P. McEldowney.
Cox D. S. Bateman.

St. Bart.'s

Bow D. K. Jardine.
2 D. M. Dean.
3 L. M. Edwards.
4 H. H. Thackthwaite.
5 H. V. Knight.
6 P. M. Oxley.
7 R. G. Orr.
Stroke J. T. Rowe.
Cox R. Knox.

Guy's Junior IV

Bow R. J. Wheatley.
2 J. W. Oliver.
3 G. A. Dingemans.
Stroke W. J. Wheatley.
Cox V. Powell.

London Hospital Junior IV

Bow S. W. T. Benthall.
2 J. E. Warren.
3 J. D. Simpson.
Stroke W. V. Howells.
Cox R. Parkinson.

The day of the race was a particularly unpleasant one and the thanks of the crew are due to all who turned up in support as well as to Mr. J. Beresford (senior) of the Thames Rowing Club, who acted as Starter and Umpire.

A word of especial thanks to Mr. Hylton Cleaver of the London Rowing Club is due here. For some years now he has annually given a considerable amount of time and energy to coaching the Guy's crew, and we are more than grateful to him. He has also very kindly written the account of the races here printed and the characters of the crew.

Hospital Information, etc.

Pass List.

ROYAL COLLEGE OF SURGEONS OF ENGLAND
F.R.C.S.
FINAL EXAMINATION
May, 1927

A. J. W. Ahern — L. H. Ball
J. Gray — P. Hack
J. A. James — T. G. I. James
D. W. C. Northfield — B. G. Scholefield

PRIMARY EXAMINATION

J. S. Batchelor — R. C. Brock
W. Leslie — A. C. Lysaght
A. Simpson-Smith — T. F. Todd

UNIVERSITY OF CAMBRIDGE
THIRD EXAMINATION FOR MEDICAL AND SURGICAL DEGREES
Easter Term, 1928

PART II

T. O. Garland — J. M. Lees
E. J. Pye-Smith — G. R. S. Stewart

PART I

E. Clayton-Jones — E. L. Graff

SECOND EXAMINATION
Easter Term, 1928
PART II

D. P. King

Papers by Guy's Men.

A. F. Hurst, F.R.C.P., Terence W. Turner, M.R.C.P., and John F. Venables, M.D. The Early Diagnosis of Cancer of the Colon and Rectum, *Lancet*, 1928, i, 1275.

Change of Address.

R. Moore Patterson, 9a, Upper Brook Street, W.1.
Harold Bacon, B.A., L.D.S., 122, Main Street, Port Elizabeth, C.P., South Africa.
M. Gibney, 83, Portland Place, W. 1. 'Phone: Langham 3812.
S. G. French, 2, Grosvenor Terrace, Hornsea, East Yorks.

Births.

LANSDOWN—On June 15th, 1928, at 106, Woodcote Grove Road, Coulsdon, to Ermyn, wife of R. B. P. Lansdown, M.B.—a son.
SAWDAY—On June 16th, 1928, at the Queen Mary Nursing Home, Derby, to Winifred (née Amos), wife of A. Ernest Sawday, F.R.C.S.Ed.—a daughter.

Marriage.

FRENCH—LANSDALE—At St. Augustine's Church, Hull, on June 7th, 1928, Stanley G. French, of Hornsea, to Joan Beatrice Lansdale, of Hull.

Death.

MALLAM—In November, 1927, in Australia, of W. P. Mallam, M.R.C.S., L.R.C.P., 97, The Vale, Acton, W.3.

EDS. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLII. *July 14th, 1928.* *Number 1043*

PASSIM

THERE are certain gloomy problems which must be tackled. Cancer is one, and it is being tackled from every angle and by every type of research worker—pathologist, dietician and "quack"—every day and in every country of the world. Great steps towards a better understanding of this curse of the civilised world have been taken along a thousand different routes. Messrs. Gye and Barnard, to take but two famous names, have in comparatively recent times shown us an entirely new method of investigation. Which, if any, of the various routes taken will eventually lead to the discovery of a cause or a cure remains to be seen. The important fact is that "something is being done about it." On July 17th to 20th the British Empire Cancer Campaign is holding its 1928 International Conference, at which some of the best brains in the medical world will be present, and at which the—we hope—fruitful ideas emanating from these brains will be given the opportunity to intermingle. Another and more local symptom of the interest being taken in cancer is the investigation by the Ministry of Health into the after history of inoperable cases. This inquiry is to be assisted by nearly all the voluntary hospitals in London, and here at Guy's a searching scheme has been drawn up by which the cases of cancer which have attended the hospital and labelled "inoperable" may be followed up afterwards by means of home visits. This last duty will naturally be supervised by our extremely efficient and hard-worked Lady Almoner's Department. The lot of the inoperable cancer case is truly a ghastly one, and we feel that every possible encouragement should be given to a scheme which may in any way ameliorate their condition, provide them with better nursing or diminish their suffering.

Without condemning *any* method of treatment as hopeless, we feel less sympathy towards some of the so-called dietetic or medicinal methods advocated for inoperable cases, whatever their value may be as preventive measures. Even our own moderate knowledge of pathology discourages us from placing any great faith in a method of treatment, for example, which relies mainly upon enemata of castor oil, or which includes the administration of proprietary drugs with "high-falutin'" titles, obtainable only at the most exclusive Continental drug stores. For ourselves, we feel that it is almost flippant to tackle what is recognised by reputable pathologists and surgeons as an inoperable cancer with a freshly-squeezed lemon.

THE current teaching of the Hospital Staff must necessarily hold a great deal of interest for all Guy's men, both past and present. The bibliography printed in this number is a continuation of that which appeared in the GAZETTE dated February 26th, 1927, and is intended to serve as a guide to the literature concerned. In this connection the GAZETTE Committee are much indebted to Sir Charters J. Symonds, K.B.E. Consulting Surgeon to the Hospital, for the excellent suggestion that from 1928 onwards this list of such writings should be included in the *Gazette Directory* and not in the GAZETTE itself, which already publishes in each number a bibliography of papers by Guy's men, including, of course, members of the present Staff. Accordingly, the 1929 issue of the *Directory* will contain as far as possible a complete list of papers published by members of the Hospital Staff during the preceding year, while this number of the GAZETTE will carry the bibliography as far as the end of 1927.

THE news that the Clubs' Union Council has decided on a transfer of trophies from the dark confines of the "Spit" to a brighter resting place in a new case on the walls of the College Reading Room is interesting in view of the thoroughly encouraging manner in which Inter-Hospital Cups have recently returned in regular procession to our experienced care. Although at the Bath Club we only succeeded in the swimming events by the narrowest of margins, we were able to gain a convincing success in the water polo. On going to press we learn of the cricket team's excellent performance in their final tie with St. Thomas's. A win by an innings and 125 runs included centuries for R. J. Eustace and F. H. B. Spence, with a useful 54 by T. P. Witherow, while on the bowling side D. P. Rees and J. P. O'Shea managed to play havoc with the opposition, St. Thomas's being all out for 83 in their second innings. In view of the fact that our bowling and batting strength had been considerably reduced by the absence of J. Durr and T. O. Garland, thisc onstitutes a very brilliant performance indeed and speaks well for the general standard of the team.

WE offer our heartiest congratulations to Mr. J. C. Heather on being awarded the Treasurer's Gold Medal in Clinical Medicine.

Three Cases of Cardiac Distress.

A Clinical Lecture by Dr. J. A. Ryle.

GENTLEMEN,—The heart, embarrassed by disease, complains in various ways. The symptoms by which we recognise its complaint may be referred to the organ itself, as in the case of pain or palpitation, or to other organs and tissues whose circulation is impaired in consequence of the cardiac disability. Thus, you are all familiar with dyspnœa, œdema, cyanosis and tender engorgement of the liver as manifestations of heart failure.

The three cases from Clinical which I bring before you to-day are undoubted examples of cardiac or cardio-vascular disease with distress or failure, but the pictures presented by them are so different that you would at once surmise, and rightly, that each must express a different pathology. Each case holds for us lessons in respect of diagnosis, prognosis and treatment which I shall endeavour to unfold to you in considering their several histories.

The first, that of a married woman aged 43, is reported by Mr. T. O. Garland. She was admitted to Miriam Ward on April 25th. She had rheumatic fever at the age of 21, and has 9 children alive and well; two others died in infancy. In the autumn of 1927 we obtain the first clear account of cardiac distress, for she was admitted to the Rotherhithe Infirmary for dyspnœa and pain in the left chest and remained there for a month. Since then she has rested at home, but, becoming less well latterly with cough, pain round the waist, dyspnœa on effort and, finally, a sharp pain on breathing in the left chest, she was sent up to Guy's. Her pulse on admission was found to be rapid and irregular, the excursions at the wrist were of varying size and some pulsations failed to reach the wrist. We were of the opinion that she had auricular fibrillation, but at the same time noted frequent short paroxysmal phases in which the rhythm appeared to be regular. This was of interest, as Dr. Campbell's first electrocardiogram showed the presence of auricular flutter, although under treatment with digitalis this was quickly replaced by fibrillation. Fibrillation as a late consequence of rheumatic fever is almost always an association of mitral stenosis, and we thought we had good support for a diagnosis of mitral stenosis in the remarkably deep red colour of her lips, which you can see for yourselves to-day, and which the patient assures us is not due to the use of a lipstick. The heart was enlarged and there was a systolic murmur at the apex, but at first we could determine no confirmatory pre-systolic thrill or rumbling murmur. Other findings included considerable enlargement of the liver, albuminuria and a dry localised pleuritic friction at the left base to account for her pain. This, we thought, might be due to a small pulmonary infarction, and held as further evidence in favour of mitral stenosis. Improvement rapidly followed rest in bed and digitalisation. The liver margin has retired, the albumen has disappeared, the urinary output has increased, the pulse-rate has fallen, and you can now feel and hear for yourselves a thrill and a diastolic murmur. Her full diagnosis might therefore be stated briefly as follows: "Rheumatic endocarditis. Mitral stenosis. Auricular flutter, giving place to fibrillation. Hepatic and renal engorgement. Pulmonary infarction." I should like to impress upon you that a large part of this information could be gleaned from a glance at

her lips and a finger on her pulse after listening to the account of her symptoms, and that first impressions, often valuable but never wholly to be trusted, were in this case fully borne out by the subsequent findings. How is it that she was able to support 11 pregnancies without mishap? We are commonly taught that mitral stenosis must in many cases be regarded as a contra-indication to future pregnancies because of the added strain and risk which these entail. I think it is reasonable to conclude from the history of this case that although mitral stenosis has been present for years the faulty rhythm and muscle failure are of much more recent origin.

The case exemplifies well the rapid improvement which may take place with rest and digitalis. It is now important that she should curtail her domestic activities, and with a growing family this can fortunately be arranged. It is also important that she should continue to take a small dose of digitalis indefinitely. So often I find that the drug has been discontinued when a certain point of improvement has been reached. I know no contra-indication in tolerant patients to the taking of small doses over very long periods, and 15 to 20 minims a day may well help to protect this patient against recurrences of her recent illness.

This type of case will be familiar to you all. The other two are more dramatic and less common, but you should be acquainted with the clinical pictures which they present.

Mr. H—— N——, aged 55, a porter, was admitted to John Ward for collapse and extreme dyspnœa. His case is reported by Mr. R. L. Harward. At the age of 9 he had extensive syphilitic ulceration of the right arm, of which he bears the scars. We have no knowledge of how the disease was acquired. Two-and-a-half years ago he was taken to hospital for an attack similar to that for which he was recently admitted. Before that he had had slighter attacks, but it is noteworthy that he has since remained at work until the very day of his admission. He was admitted in the early hours of the morning of April 27th having been found in a collapsed condition in the street. His colour was a greyish blue; his skin was cold and covered with sweat; he had no pain, but breathing was laboured and "accompanied by a continuous bubbling sound"; froth was trickling from the corner of his mouth; the pulse was irregular, and its rate 140 to the minute; respirations 36 to the minute; the apex beat was in the fifth space, $1\frac{1}{2}$ inches outside the nipple line; præcordial dulness extended to the right of the sternum. The liver margin was tender. He was given nasal oxygen, and one-hundredth of a grain each, hypodermically, of atropin and strophanthin, and 8 ounces of blood were withdrawn from his median basilic vein. From looking and feeling desperately ill, his appearance and sensations steadily improved, so that when I first saw him about 12 hours later he was quite comfortable and the bubbling in his lungs had all subsided. As you see, he is now free from all embarrassment, but by his Corrigan's pulse and aortic murmurs you can recognise a part of the underlying trouble. The history is that of the condition known as acute pulmonary œdema. Pulmonary œdema akin to this may result from inhalation of irritant gases such as phosgene gas, first used as a lethal weapon in the war, and may very rarely be symptomatic of an acute pulmonary infection. But the cases encountered in practice are usually a consequence of cardio-arterial disease and the œdema is thought to be a result of serous transudation from the smaller pulmonary vessels in conditions in which the left ventricle finds itself unable to transmit the whole output of the right ventricle. In support of this hypothesis we see acute pulmonary œdema, principally in cases of arterial and renal disease and in aortic incompetence, conditions in which the left ventricle is over-taxed. This man has a to-and-fro murmur in the aortic area which we believe to be due to syphilitic aortitis—his Wassermann reaction is strongly positive, and you will remember his early history; in addition, his blood-pressure has been recorded as high as 185 systolic, 100 diastolic. The characteristic features of acute pulmonary œdema are sudden onset, rapid development of dyspnœa and distress with moist sounds all over the chest, and the outpouring, sometimes in enormous quantities, of a white or slightly blood-stained frothy fluid, resembling the spume on the lips of an over-driven horse. The treatment in grave cases should include continuous intranasal oxygen, a hypodermic injection of atropine or morphine with atropine and venesection. From lesser attacks the patient may recover spontaneously; from seemingly hopeless attacks, in which drowning seems imminent, he may be dramatically reclaimed by timely aid to survive for longer or shorter periods. As the underlying cause is generally some serious organic change in the heart and arteries, the ultimate prognosis can seldom be good.

Our third case, reported by Mr. W. H. Miller, is that of a man aged 54. He has consumed too much alcohol in the past and was once in Guy's for a fractured leg; otherwise his medical history was uneventful until six months ago. He then began to notice a sense of retrosternal discomfort on mounting stairs or with other exertion. At times there was actual pain, but this always

disappeared immediately with rest. On the morning of April 19th he was suddenly seized at his place of business with a violent retrosternal pain. He had to lie down, but could not remain still, and rolled about in the extremity of his agony. He was brought to the surgery in a state of collapse with a rapid, feeble pulse. Amyl nitrite gave instant but incomplete relief. He went home, but had a return of pain and was admitted the next day. Mr. Miller has well described him as nervous, shaky and plethoric. His pain was still located behind the middle of the sternum. His pulse was 98 to the minute and regular. His blood-pressure, which had been 160 systolic in the surgery on the previous day, had fallen to 140. The next day it was 120 and the next day 90—a very low figure for a man of his build—at which it has since remained. The impulse was neither visible nor palpable ; the left border by percussion was 4 inches from the midline. The most striking physical sign, and this has persisted as you shall hear for yourselves, was the inaudibility of the heart sounds. With very careful attention they can now just be heard, faint and far away and equalised. There is no considerable emphysema or other intervening cause to explain this, and we believe it to be due to a serious myocardial damage. For many days after admission the chart shows pyrexia, gradually settling by lysis. There was a leucocytosis at first of 29,000 cells per cubic mm., which, in concert with the declining temperature, has gradually fallen to 11,500. The history of onset and the symptoms and signs which I have described are characteristic of coronary thrombosis with cardiac infarction. Of this condition there are at least 12 important manifestations, including :—

(1) Onset with status anginosus, or rapidly repeated anginal seizures at rest, although it is believed that coronary occlusion without pain also occurs.

(2) Restlessness in the attack, instead of the usual immobility of angina pectoris.

(3) Failure of amyl nitrite, and relief with difficulty even by morphine, large or frequent doses often being necessary.

(4) Shock-like symptoms in the graver cases.

(5) Epigastric instead of sternal pain, with simulation of an acute abdominal catastrophe in some cases.

(6) Fever following the attack, transient or lasting for several days.

(7) Pericardial friction, usually very transient.

(8) A falling blood-pressure.

(9) Development of signs and symptoms of congestive failure in grave cases.

(10) Faintness and equalisation of the heart sounds and sometimes arrhythmia.

(11) Leucocytosis.

(12) Certain electro-cardiographic changes indicative of myocardial damage.

Of these 12 manifestations, no less than 8, including the electro-cardiographic changes—which Dr. Campbell reports as typical—were recorded in the case of this man. What are we to presume is the associated morbid change ? We can with some confidence assert, with our growing knowledge of the syndrome, that he has a branch of a coronary artery occluded by a thrombus, the thrombus being secondary to coronary atheroma and that he has ischæmia with necrosis of a part of his ventricular wall. Although he is now comfortable, the prognosis in this case is not good, and clearly when a large branch is blocked the ultimate outlook is always bad. But I believe it to be wrong to take a gloomy view in every case of coronary thrombosis. John Hunter lived and worked for 20 years after his, and I believe there are cases with blockage of a small branch—many, doubtless, pass undiagnosed—in which a return to a normal or restricted life is possible. In the initial stage treatment must include absolute rest in bed for an adequate period, the duration being never less than several weeks and regulated by the severity of the initial symptoms, the progress of the case and other evidences. For the pain morphine should be given. Small doses of digitalis are thought to be desirable if there is tachycardia or arrhythmia.

I have now shown you our three cases of cardiac distress. The first was admitted for pleuritic pain and dyspnœa on effort ; the second for sudden and urgent dyspnœa and obvious œdema of the lungs ; the third for intense and sustained retrosternal pain, followed by pyrexia, a falling blood-pressure, and an inaudibility of the heart sounds so striking that I have brought him here principally for you to observe this sign for yourselves. With fair confidence we have been able to attach a causal pathology in each instance. Incidentally, too, these cases have served to illustrate some of the effects of the three commonest causes of organic cardiac disease, namely, rheumatic fever, syphilis and arterio-sclerosis.

Guy's Hospital Gazette.

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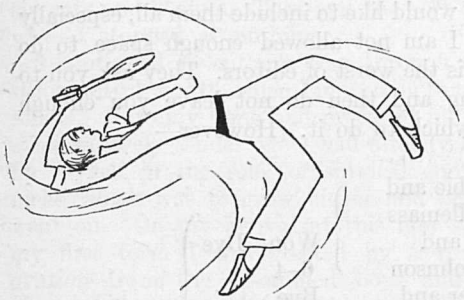
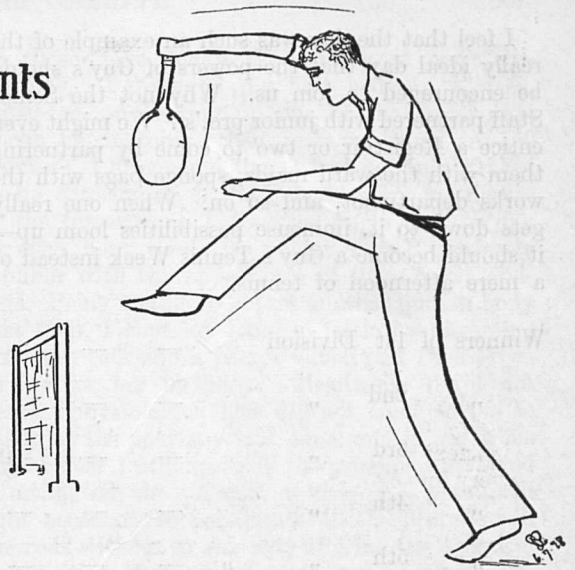
One of Life's Little Tournaments





MY kindness of heart has betrayed me again. It happened like this. I was wandering idly through the park making one of those interminable, although rather pleasant on a sunny day, journeys from the Surgery to the X-Ray Department. Suddenly the sun shone less brightly, the nurses seemed to trip less jauntily to their 11 o'clock mid-day meal, while even the pigeons seemed to have lost their deadly accuracy. Why the gloom? Could it be the spirit of Pat and Sam revolting against reconstruction? Had the Superintendent run out of cigarettes? Such thoughts chased each other through my mind when I located the focus, as it were. The editors of the GAZETTE were out for copy. They bore down upon me ejaculating in harmony, "Write something for the GAZETTE." I was weak. My heart went out to them as I noted editorial tears coursing down their cheeks. I consented, and here I am appearing in print.

Now I want a subject. Of what can I write? It must be something of universal interest—preferably something unusual. It ought to have "kick" with it, but must have dignity and attraction for all. I know, *the nurses*. No, that would never pass the censor. The Mixed Tennis Tournament at Honor Oak Park. Mentally I ticked off on metaphorical fingers—of universal interest, unusual, with a kick but dignified. How apt! Most convincingly does it tally with the ideal subject. So here goes, with my best daily paper style.

On Wednesday, July 4th, all roads—and railways too for that matter—led to Honor Oak Park, where was assembled as distinguished a gathering as could be found anywhere. What a day! What visitors! Even the Matron and Mrs. Eason came and, ably assisted by the sun, shed radiance on the proceedings. Nurses and Sisters—I am so sorry, I should have said Sisters and Nurses, anyhow they were all present—arrayed in creations reminiscent of Wimbledon, very soon showed us that they excelled not only in cool elegance but in hard driving, smashing and stinging backhanders—of course, they have more practice at this last stroke—soon eclipsing their less conspicuous partners.

The courts were in the pink—or, rather, green—of condition, and we were delighted to see the groundsmen gazing with pardonable pride on the brilliant spectacle. They are to be congratulated on the condition of the turf. It was so strongly reminiscent of billiard tables that on three separate occasions I found myself murmuring "spot" or "plain" instead of "rough" or "smooth." The tennis itself was first rate and all of us at the top of our form, although, of course, we could not all win. Apart from the tennis it was great fun finding one's partner and finding tea—the tea was more difficult to find, the partner more worthy of search. However, they both turned out well worth the trouble to which we were put. I am forgetting the winners. Bruce-Pearson could hardly fail to win with Sister Lydia to partner him. He has an additional pull over us little men in that he can reach any ordinary ball without moving and most extraordinary balls by bending slightly in the appropriate direction, but to give him his due the ball hit the strings of his racket with the same monotonous regularity with which it hit the wood or completely missed our own rackets. But what a good thing we are not all Cochet's and the like—the Final would be so long. Personally, although many may not believe it, I enjoyed my little bit of fun, winning four games and trying to stop each of the other 32 from being love games.

I feel that the day was such an example of the really ideal day that the powers of Guy's should be encouraged to join us. Why not the Senior Staff partnered with junior pro.'s ? We might even entice a Registrar or two to come by partnering them with the ward maids, sponge bags with the works department, and so on. When one really gets down to it, immense possibilities loom up—it should become a Guy's Tennis Week instead of a mere afternoon of tennis.

In conclusion, I can only commiserate with those poor unfortunates who were either too busy or too frightened to come. Oh, but the results ! I had forgotten them. Here are some of them. Much as I would like to include them all, especially my own, I am not allowed enough space to do so. That is the worst of editors. They ask you to do a thing and then do not leave you enough room in which to do it. However—

Winners of 1st Division	A. M. Crombie and Miss Middlemass				
„ 2nd „	G. J. Hollis and Miss R. Johnson	Won 6–4	Bye		
„ 3rd „	S. J. Wheeler and Nurse Wilson	Bye			
„ 4th „	R. Bruce-Pearson and Sister James	Won 6–0	Won 6–4	Won 3–6, 8–6, 6–3	
„ 5th „	E. T. Conybeare and Sister Johnson				

J.R.R.

From Ward Clerk to Surgeon;

or, Life by the Knife.

I WAS born a mento-posterior, since when I have never looked back. From the moment when, aged an insignificant number of weeks, I cut my foot on my bottle I was determined to be a surgeon. Even at this tender age my doggedness made it apparent that my life was to be one in which incision would figure largely. I am told that I cut my teeth with unusual crispness and finality. Then, when I bit my nurses's hand, I performed the operation neatly through the terminal inter-phalangeal joint, thus demonstrating early an instinct for the correct surgical methods. At a more mature age, when my fond parents coaxingly said, "Now, Frankie"—I understand that my godmothers and my godfathers in their foolhardiness gave me that name—"eat up 'oo's biccy nicely," I would, without a single unnecessary movement or superfluous instrument, neatly excise the sugary summit from the dull buff biscuit below.

But do not think for a moment, gentle reader—I am sorry, but all autobiographies assume two things, first, that someone will read them and, secondly, that all readers are gentle—that I was a thoughtless or headstrong infant. This would be far from the truth, which records that my methods were ever those of conservatism and deliberation. It was not in a moment of sudden pique that I amputated my nurse's finger, but after duly considering the treatment, "sitting on" the position overnight, and finally deciding, possibly after a meeting with my colleague the Persian cat, that there was only one line of adequate treatment, averse as I have always been to extreme measures.

At last came that great day when I went to my first school. Few realised then how important a day it was in British Surgery. The fact was only recorded in a few of the larger and better-known periodicals. To its undying shame, the *British Medical Journal* remained silent.

At school I immediately became the most popular boy. My bonhomie, my general good spirits and my ability to bite a hole clean through the ear of any other boy in the school soon made me a general favourite. Visitors to the school would constantly be struck by the cries echoing round the playground of "Come and play with me, Frankie"—they probably called me Frankie because they thought it was my name. So it was as a matter of fact. Here at school my surgical instincts clung to me still. One day I extracted three of Bloggins Minor's best teeth by a neat blow from the upper and anterior end of a cricket bat while he was keeping wicket. Then there was the great day of major surgery when I made a magnificent straight incision in Jones Major's back, right through his trousers, too, by the simple expedient

of placing a piece of broken glass on his chair in the Scripture lesson. That was a beautiful stroke.

So I went on from triumph to triumph. By the time I was 12 I had entirely dissected two frogs, six cats and a mule. That was the sort of chap I was—I stopped at nothing.

I continued to cut my way through all opposition until I was 14, when I moved on to my public school. Here my fame had preceded me. At this comparatively tender age I had already hewn out for myself in the rock of surgical endeavour a niche which was to grow bigger and bigger as I went on. On my arrival at this new school for my first term I was greeted by a tremendous ovation from the assembled boys and masters alike. I found myself shouldered by the prefects and showered from all sides with scalpels, dissecting forceps—toothed and untoothed—Gigli saws and dead cats. This I naturally took as a subtle compliment to my surgical ability, though, in my boyish modesty, I little realised how widely my fame had already spread. That night my bed was full of frogs. So do boys like unobtrusively to convey to their fellow students what they feel for them.

Of course the exhilarating standard of this welcome could not be repeated or maintained, but each day I spent at that school I added another laurel to the wreath I had already won for myself. I was not a snob. I joined freely with the other boys in their games of Rugby football and hop-scotch, and, to show that I was an "allround"-man, I held for a month the champion "conker" of my House. But I cannot disguise the fact that my work came before all else, and time and again did I come indoors on a beautiful summer afternoon, leaving a most enjoyable game of poker on the downs, to get down to my books and my beetles. When I left that school, which I did unusually early at the express wish of the Headmaster, I had dissected another 200 frogs, 89 cats, 35 rabbits and a polar bear, which had been presented to the school by an old boy, an Arctic explorer. I was then 16.

Then began the period in my life which I may call the first real step to a renowned surgical career. Up till now I had been but a boy and my work had been done in a boyish way. Now, ignoring the request—nay, the pleading—of all the best colleges at both the older Universities, I determined to go straight to the scene of my ambitions, a big London hospital. Having obtained some quiet lodgings in Oxford Street I began my career in the Dissecting Room, going to and from the hospital each day in a carriage and pair, as befitted the role of a quiet and unobtrusive student which I liked to assume, although by this time I could not but realise that I was a marked man. In those days one worked singly at one's dissections. I dissected my first body in a week. However, on looking up one of the larger text books of anatomy, then just published in 150 volumes, I discovered that I had not fully traced to its determination the dorsal cutaneous nerves of the forearm, so I dissected three arms a day for the next week to render myself perfectly familiar with the appearance of these nerve endings. Being unable to obtain another human body just then, I kept my hand in fettle by dissecting six more cats and a parrot which had been given to me for my birthday. Meanwhile I did not neglect physiology. This did not come to me so easily as the anatomy had done, and it was some days before I fully grasped the principles involved in estimating the quantity of vitamin D present in light necessary to precipitate all the proteoses in the rods without in any way altering the chemical composition of the cones in the retina of the eye of a person suffering from a rotary nystagmus. However, I soon grasped the elementary principles of the subject and was able to take my examination in anatomy, physiology and pharmacology at the earliest opportunity.

Then an entirely fresh field for conquest was opened up before my devouring eyes. I was to put into practice the principles which I had spent so many hard years in perfecting. It is true that the next three months of my glorious career were mainly occupied by pushing trolleys from one place to another, but even this menial duty I performed with such a chirurgical air that I was soon singled out for more important and responsible duties. It was almost no time before I was entrusted with the responsible and deft duty of holding the receptacle into which those recently under the influence of anæsthesia sometimes return any foodstuffs which they may have inadvertently been allowed to ingest shortly before induction. It was but a brief step to the even prouder position of being permitted to mop the perspiring brow of the hard-working surgeon, when that gentleman's sudorific secretion was threatening to drop from his nose into the gaping abdomen over which he was working.

In spite of these brief moments of reprieve, however, the drudging character my work had temporarily to assume during my period as a ward clerk could not fail to act as something of a deterrent to my enthusiasm, and I entered upon my next period—in the Medical Wards this time—with a little of my spirit broken and one or two illusions shattered. In the Medical Wards I was rather out of my element. I have endeavoured to show how, during all the early part of my life, I was happy only in an essentially *surgical* atmosphere. And here I found to my horror surgery

"They tells me up at the 'orspital that me liver's gone all nobbly from drink. Well, 'ere's to another nob, dearie."

was not encouraged. Hard words even I occasionally heard spoken by the physicians about the methods of their surgical brothers. This was the biggest, in fact, the first serious set-back of my young life, and the blow was hardly lessened by the fact that I found myself with time on my hands, which I could fill with my old love, dissection. For I discovered that even from this one-time province of pure delight some of the joy had flown, and during the whole of my first three months in the Medical Wards I only dissected two dogs and a macerated fœtus, which I discovered wrapped in brown paper in the College.

Returning to the Surgical Wards for another respite of three months, my spirit revived a little, but by this time the unpleasant truth was forcing its way upon my full consciousness. I was beginning to realise to the uttermost the bitterness of an unfulfilled destiny. Where now was the curly-headed boy who had so blithely set out upon a career of bold incisions and open operations? He was rapidly becoming converted into the cynical medical student whose only interest was shove-halfpenny and whose only hobby was beer, who spent the time specified by the examiner for enforced study in counting red, or possibly even white, blood corpuscles, or in repeatedly noting *ad nauseam* that the colour of the typical urine tallied well with that of the average straw. Little wonder that I began to perform my duties about the hospital with a drag in my step and a cynical leer on my lips. Life was indeed hollow.

By the time I had finished "gynæ" I was hardly distinguishable either by my work or my appearance from the hundreds of other students around me. The silk-hatted and green-coated figure making his slow and stately way up the hospital steps every morning was only remarkable in the seething mob round him by virtue of the bedraggled cat which he always led for the daily dissection.

In due course I became a qualified practitioner, together with some 80 of my colleagues at the hospital. I retained enough reputation still to obtain house appointments, and eventually I became a Surgical Registrar. Now, perhaps, I could really fulfill some of my early promise. But, alas, it was too late. I had drifted with the tide too long, and my first major operation, that of tapping a hydrocoele, called for no comment beyond a brief note in a small Czecho-Slovakian medical journal, which had confused my name with that of one of its own countrymen.

After more years of hard, dull hack-work I became a surgeon on the staff of my hospital. You, gentle reader, if you have got as far as this, may say this was a worthy ending to a great career. I thank you from the bottom of my heart. But, for myself, I am a broken man. My dreams have ended in smoke, and my ambition might as well have never been. Dashing a tear from my eye, I must go and excise a sebaceous cyst from one of the crowned heads of Baluchistan.

"F."

Nurses' Debating Society.

ON the evening of June 26th, at a meeting of the Nurses' Debating Society, the motion for discussion was "That the Cinema is a degenerative form of amusement."

The chair was taken by the President, Miss Holland, and the meeting was conducted with due observance of all the formalities. Everyone was delighted that Matron found time to be present. Miss I. E. Barratt, the secretary of the Society, thanked her for her support and expressed pleasure on behalf of the nurses to have her among them. The Assistant Matron, several sisters and many representatives from each year of nurses made up the audience. Miss Holland opened the meeting and called upon Miss L. Young to propose the movement.

Miss Young read an excellent paper in her usual easy manner. Having compared the effects of Western films on the Hindu mind with the possible effects of Eastern films on the British mind, she went on to point out that it was the film stories and not the technique which were wrong. She ended on a note of lamentation for the passing of the old music halls in favour of the picture palaces, where, among much that was certainly good, so much that was depraved nonsense worked with sensational effect on the minds of those least fitted to witness it.

Miss Hesslegrave seconded the proposal in a very heated, scornful tirade on cinemas and people in general who frequent them. Her paper was short and so much to the point that she sat down having made those who, even rarely and at long intervals, go to such haunts of iniquity feel very small indeed.

Miss I. A. White opposed the movement, seconded by Miss Barraclough.

Miss White, we gathered, thinks the film world the only place in which ultimate happiness can be found.

Miss Barraclough took the film from the educational side, and from that point of view was very convincing.

Miss Holland then pronounced the subject open to discussion.

Supporters of the cinema, who presumably had spent many happy hours there—we hope not on the back seat !—spoke from all corners of the room. Also opposers, who would prefer that the Boro' mothers should play tennis or indulge in other out-of-doors sport rather than take a well-earned rest and a great deal of pleasure at the local cinema, with its lurid scenes of life as it is *not* lived.

Miss Barratt gave us a few titles of films that had lately attracted her notice and left us to draw our own conclusions as to the subject matter—"Soft Living," "A Blonde for a Night."

Miss Angove (Sister Massage) was of the opinion that children and old ladies were alone suitable as frequenters of the cinema. She did not think it could do either of them very much harm. She also brought forward the argument against them that in the large open spaces of a country such as Australia men cannot be induced to stay and cultivate the land because they must have their cinema.

Miss Holland then summed up and a show of hands was asked for. We are sure every reader will be glad to hear that it was decided by a majority of 40 that one may go to the cinema without any very serious detriment to one's character.

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A Case of Interest from Clinical.

GLADYS ——, aged 35, had three healthy children, aged 17, 15 and 10, and had had one miscarriage, 11 years ago.

In July, 1927, she thought she was seven months pregnant, although she had had occasional small hæmorrhages throughout this period.

On July 11th she had a sudden attack of abdominal pain, followed by a flooding.

On the 12th she was sick and had intermittent pains of gradually increasing severity. She then had another flooding and expelled what she describes as a small bunch of white grapes. She was taken to Hammersmith Hospital, where labour was induced, and at 2 a.m. on the 13th she expelled a hydatidiform mole. No curetting was done, and she was discharged 16 days later.

After this she never felt well and has lost weight and become gradually weaker. Menstruation became very irregular, bleeding often lasting a fortnight.

During the week preceding admission she felt very faint, slept badly and had a dry, hacking cough. On no occasion has she coughed up blood.

On examination she was found to be very thin. Dilated veins were visible on the front of her chest.

The second intercostal space on the right side was filled in, compared with the hollow on the left side and was tender on pressure. The left lung appeared normal.

On the right side the note above the clavicle was slightly impaired; from the clavicle to the third rib, there was stony dullness, and below this the note was normal. Behind, the note was impaired over the upper half of the chest. Breath sounds, vocal resonance and tactile vocal fremitus were all much diminished over the dull area. No adventitious sounds could be heard.

The heart was pushed over to the left, the apex being in the fifth space, 4½ inches from the midline. The rate was 100. The liver edge could be felt two inches below the costal margin. A vaginal examination showed only retroversion of the uterus.

An X-ray of the chest showed a large round mass in the upper part of the right lung.

On June 1st Mr. Cook curetted the uterus, which he found not to be enlarged. The curettings appeared normal and one section only showed endometritis.

Although her temperature remained normal, her pulse gradually rose to 140 and her respiration rate to 30.

On the 7th she became very distressed and was found to be dull all over the right side of the chest. On needling her chest, over a pint of deeply blood-stained fluid was removed. This rapidly re-accumulated, and she died on the morning of the 9th.

At autopsy the right bronchus was found to be occluded by a mass of growth. The right middle lobe was entirely replaced by a hæmorrhagic growth, which was adherent in front to the pleura and pericardium. The upper and lower lobes were collapsed and the pleural cavity contained a large blood clot.

Just beneath the pleura, at the base of the left lung, there was a small nodule of hæmorrhagic growth. There were also several hæmorrhagic nodules on both pleural surfaces of the diaphragm.

The liver was pushed down and flattened, so that it almost covered the front of the abdomen.

The uterus appeared normal apart from a small scar in the wall of the cavity near the internal os. It contained a small blood clot.

Microscopical examination of the nodules from the lung and diaphragm showed the syncytium and Langhans' cells characteristic of a chorion-epithelioma.

I am indebted to Dr. Ryle for permission to publish this case.

R. L. H.

Some Notes on the Origin of Gingivitis.

By G. B. Pritchard, Esq., L.D.S., R.C.S., M.R.C.S., L.R.C.P.

INFLAMMATION of the gum margin is a condition very often seen by the dental surgeon occurring in a variety of forms.

ACUTE GINGIVITIS

This is usually seen as a severe spreading ulceration, at first confined strictly to the gum margin, later on tending to spread to the alveolar and buccal mucous membrane, until the whole of the oral cavity may become involved. It has a short incubation period and rapid onset; it often produces general symptoms of toxæmia and if neglected leads to necrosis of the alveolar process and considerable sloughing of the soft tissues. It tends to become chronic after a period and acute exacerbations frequently occur. There are two clinical varieties—the one the pus-spirillary infection of Vincent and the other infection with the streptococcus pyogenes.

CHRONIC GINGIVITIS

This condition commences so slowly and insidiously that its presence may be completely unsuspected for months or years, until it is well established, by which time the patient, as a result of constant recurrences of minor symptoms, begins to suspect that all is not well with his mouth.

There are different types of this condition, but often the differences are poorly marked and some of the secondary manifestations are common to all types.

(*a*) *Hypertrophic*—

The one most commonly seen is that in which an inflammatory hypertrophy occurs in the connective tissue of the gingival margin. In these cases the bigger the hypertrophic masses are, the greater is the tendency for ulceration to occur.

(*b*) *Ulcerative*—

There is another type in which the predominant feature is a progressive ulceration of the gingival margin without the formation of hypertrophic masses. The characteristic appearance in these cases is a narrow zone of ulceration around the necks of the teeth, most marked where the interdontal papillæ should be. Periodically will be seen a definite sloughing of the gum margin. As one result of this tissue destruction there will be a progressive denudation of the roots of the teeth.

(*c*) *Atrophic*—

This is a type fairly often seen, but not so frequently recognised, in which the characteristic manifestation is a slow but persistent atrophy of the gum margin, accompanied by absorption of the alveolar margin and more superficial fibres of the periodontal membranes. Clinically, there is no inflammation and the gum margin seems to be intact. The teeth get longer and longer and progressively looser. It is definite that there is a streptococcal infection associated with this condition, although many observers think that this infection is itself secondary.

One has seen a rather obscure variation of this type, in which the persistent atrophy was associated with a widespread loss of the alveolar epithelium, extending for a quarter of an inch or more from the necks of the teeth, leaving the gums

a bright red colour. This condition undoubtedly started as an infection of the gingival margin.

I have described these variations as an indication of the way an infection of the gingival margin may show itself. On the other hand, it is instructive to consider why it should become infected at all, and in this connection one must look for predisposing and contributory causes.

An intact gingival margin cannot become infected. The first link in the pathological chain is a localised injury to the gingival crest constantly re-applied, associated with an opening up of the gingival trough. Alternatively, a chronic congestion of its capillaries, particularly in the interdental papilla, may have the same effect by producing an abnormal secretion into the gingival trough. I will deal with these points in greater detail at a later stage.

The actual exciting cause—viz., bacterial infection—is perfectly plain. In nearly every case the organisms are those commonly found in all mouths, healthy or diseased, and in every case similar organisms, though not to the same extent, can be found in most mouths not so diseased.

That these organisms may become parasitic must depend on the development of certain abnormal conditions, and it is these that I wish to consider.

THE NORMAL GINGIVAL MARGIN

In a perfectly normal mouth the gingival trough is only a potential space. The epithelium on its inner aspect lies in close contact with the enamel, just superficial to the neck of the tooth. Interstitially, the contact points of the teeth protect the gingival crest, and on the buccal surfaces of the lower teeth and the palatal surfaces of the upper teeth the curve of the cingulum sheds the food, comminuted by mastication, free of the gingival margin. On the other aspects of the teeth, the normal arrangement of the arches is such that food is not likely to impinge on the margin.

Developmental conditions of an abnormal nature produce alterations in the shape, size and depth of the gingival trough, and in its relationship to the needs of the teeth.

Direct injury by food impaction, by carious cavities in the gum margin and by food impaction in them, by restorations of all kinds—crowns, fillings, bridges, extending to or below the gum margin—opens up the gingival trough and produces an abnormal reaction into it. Accumulated débris which should never be there becomes infected, and inflammatory changes soon start in this exceedingly delicate tissue. Prosthetic appliances, and both fixed and removable orthodontic appliances, particularly the fixed, have exactly the same effects.

Depositions of salivary calculus—in itself infected—exert pressure on the crest and débris, and are soon trapped under the outstanding ledges. Ulceration or atrophy follows, and the path is open to infection of the margin itself.

Once the inflammatory process has started there is no end to it. Seruminal calculus, formed from the salts of the exudate and incorporating débris already present, is soon formed on the necks of the teeth. This acts as a further irritant to the already inflamed tissues, and so the condition goes from bad to worse.

DEVELOPMENTAL ABNORMALITIES OF THE GINGIVAL MARGIN

In conditions of restricted growth of the jaws and the development of various types of abnormalities, one can predict with a certain degree of accuracy the place where the gingivitis will occur and the age at which it will first be seen. To consider all types would take far too long, and I will confine myself to a few of the more common ones.

(*a*) *Connected with the Third Molars*—

In the region of the third molars at the time of their eruption a gingivitis is often seen commencing.

Usually it occurs in well-developed mouths with all the teeth present. The eruption is occurring rather later than the average age as recorded in the text books, and with a moderate degree of difficulty. The alveolar length is not as great as it should be, and, up to a point, the shorter it is the more marked is the tendency to infection. This is seen particularly in connection with the mandible.

As the eruptive period is long the flap of gum over the posterior cusps is unduly persistent—food lodges under it and it becomes inflamed and swollen. It gets bitten on by the erupting upper third molar because the vertical space between them is too short. Infection invariably follows.

Changes more remotely connected with this eruptive process at the back of the mouth are seen in the interdental papillæ, as far forward perhaps as the canine. They become slightly congested and swollen, and this is due to the pressure transmitted through all the contact points by the erupting tooth. A slight exudate into the trough stagnates there and it readily becomes involved in the infection spreading from the region of the third molar. There is one further point connected with the eruption of the third molars. In every case where the lower third molars are erupting in their usual position a pocket of varying depth is formed posterior to them as soon as the crown is uncovered. This pocket, which is a very abnormal gingival trough, usually gapes open because the submucous tissue in this region is very loose and areolar.

(*b*) *Connected with the Canines and Premolars*—

Twelve to fourteen years is a very common age for the incidence of a gingivitis around the anterior teeth, both upper and lower. It arises when one of the three teeth, first or second premolar or canine, endeavours to erupt into a space which is not quite large enough for it. As a result of the pressure the other teeth become too tightly packed together—in the mandible "fanning" of the incisors is seen. Papillary congestion occurs with the sequelæ I have previously mentioned, and sooner or later the gum margin becomes infected.

(*c*) *Connected with Individual Misplaced Teeth*—

For one further example of isolated malformation of the gingival margin take cases where individual teeth are crowded out of the arch on eruption.

The upper lateral incisor teeth are frequently seen lying inside the bite of the lowers. Directly they pierce the gum one can see that the trough tends to gape, especially at the contact points anteriorly. Every closure of the jaw in mastication forces food on to the margin instead of past it, and in a very short time a chronic thickening is seen with secondary pocket formation.

TRAUMATIC OCCLUSION

As an example of a developmental error producing gingivitis in a totally different way traumatic occlusion must be considered.

Typically, it is seen in cases of marked "overbite" of the incisors, and the results are most obvious on the lower gums. One of the lower incisors is usually anterior to the arch of the rest, and the whole of them make oblique contact with the angula of the uppers at every closure. The result is seen in a congestion of the gingival margins anteriorly, marked recession especially round the outstanding tooth, which takes the greatest shock, and deposits of seruminal calculus.

CHRONIC IRRITATION OF OR INJURY TO THE GUM MARGIN

(*a*) *Mouth Breathing*—

This condition, even if unaccompanied by the usually associated irregularity which exaggerates the effects, is a very potent predisposing cause of a most intractable anterior gingivitis.

In these cases the cleansing carried out by a normally functioning upper lip is in abeyance. Saliva incorporating food débris and inhaled foreign particles dries on the teeth at the gum margin, where a definite inflammatory reaction is produced.

(*b*) *Habits*—

Certain varieties of food—the nature of them being obvious—taken late at night stagnate around the teeth for hours while the parts are at rest and the salivary flow at its lowest. The inevitable reaction is bound to occur.

(*c*) *Various*—

Cavities extending to the gum margin and restorations below it, faulty restorations allowing food packing, all lead to irremediable damage. A polypus of the gum is one form of a localised hypertrophic gingivitis, and this is constantly seen in deep neglected interstitial cavities.

Prosthetic and orthodontic appliances are often brought up to the necks of the teeth to infringe on the gum margin. Bands for fixed orthodontic appliances are particularly harmful in this respect, as they cut into the attachment of the lining epithelium of the trough to the neck of the tooth.

Experience teaches that the gingival margin recovers rapidly from injury or the application of an irritant if it is not recurrent. On the other hand, prolonged irritation, however mild, produces changes that are permanent and which inevitably lead to infection. Professor Gottlieb, of Vienna, in a paper read before the Odontological Section of the Royal Society of Medicine, in 1927, demonstrated the presence of a continuous epithelial covering over the whole of the mouth—Nasmyths' membrane at the necks of the teeth blending with the epithelium at the deepest point of the gingival trough. It is mainly on the integrity of this junction that the health of the gingival margin depends.

Hospital Appointments.

THE following appointments and re-appointments have been made by the Court of Committees :—

Tuberculosis Officer—

Dr. G. Marshall, M.D., F.R.C.P., re-appointment for one year.

Medical Assistants—

Mr. A. A. Osman, L.R.C.P., M.R.C.S., re-appointment for one year.

Chief Clinical Assistant and Registrar, Ophthalmic Department—

Mr. D. F. Durward, L.R.C.P., M.R.C.S., re-appointment for one year.

Mr. S. C. R. Flaxman, M.B., B.S. (to Mr. Eason), re-appointment for one year.
Mr. O. Halstead, L.M.S.S.A. (to Mr. Ormond), re-appointment for one year.

Chief Clinical Assistant and Registrar, Dermatological Department—
Dr. L. Forman, M.D., M.R.C.P., appointment for two years.

Chief Clinical Assistant and Registrar, Orthopædic Department, with Charge of Workshops—
Mr. C. Lambrinudi, F.R.C.S., re-appointment for one year.

Chief Clinical Assistant and Registrar, Department for Psychological Medicine—
Mr. C. P. Blacker, M.B., B.Ch., re-appointment for one year.

Chief Clinical Assistant and Registrar, Children's Department—
Mr. R. E. Smith, M.B., B.Ch., appointment for two years.

Chief Clinical Assistant and Registrar, Ear, Nose and Throat Department—
Mr. R. J. Cann, M.B., B.S. (to Mr. Layton), re-appointment for one year.
Mr. J. Lewin, M.B., B.S. (to Mr. Mollison), appointment for two years.

Chief Clinical Assistant, Actinotherapeutic Department—
Mr. J. F. Carter-Braine, F.R.C.S., re-appointment for one year.

Senior Assistant Bacteriologist—
Mr. L. W. Cann, M.B., B.S., re-appointment for one year.

Junior Assistant Bacteriologist—
Mr. E. H. Richards, M.B., B.S., F.R.C.S., appointment for two years.

Resident Medical Officer, Bright Ward—
Mr. R. S. de Bruyn, L.R.C.P., M.R.C.S., appointment for two years.

Assistant Anæsthetists to the Hospital—
Mr. E. R. Boland, M.R.C.P., re-appointment for one year.
Mr. R. J. Cann, M.B., B.S., re-appointment for one year.
Mr. O. Halstead, L.M.S.S.A., re-appointment for one year.
Mr. A. Simpson-Smith, M.B., B.Ch., appointment for two years.
Mr. J. R. B. Hern, M.B., B.Ch., re-appointment for one year.

Anæsthetist to Bright Ward—
Mr. E. A. Scott, L.R.C.P., M.R.C.S., re-appointment for one year.

Instructor of Patients with Defective Speech—
Mr. H. St. John Rumsey, M.A., re-appointment for one year.

Clinical Assistants to Medical Out-Patients—
Mr. C. H. Atkinson, L.R.C.P., M.R.C.S., re-appointment for one year.
Mr. R. E. Smith, M.B., B.Ch., appointment for one year.
Mr. E. C. Warner, M.B., B.S., re-appointment for one year.

Clinical Assistant in Deep Therapy Department—
Mr. W. S. McConnell, L.R.C.P., M.R.C.S., appointment for two years.

Director of Venereal Diseases Department—
Mr. V. E. Lloyd, M.B., B.S., re-appointment for one year.

Assistant (Female) Director of V.D. Department—
Miss M. Rawlins, M.B., B.S., re-appointment for one year.

Medical Officers (Male) to V.D. Department—
Mr. N. L. Lloyd, M.B., B.S., M.R.C.P., appointment for one year.
Mr. P. M. Moffatt, M.B., B.S., appointment for one year.

Medical Officers (Female) to V.D. Department—
Miss E. H. Schwab, M.D., re-appointment for one year.
Miss V. I. Russell, M.D., re-appointment for one year.

Dental Officer to Salomons Centre—
Mr. E. R. Bailey, L.R.C.P., M.R.C.S., L.D.S., re-appointment for one year.

Dental Anæsthetist to Salomons Centre—
Mr. A. D. Marston, L.R.C.P., M.R.C.S., L.D.S., re-appointment for one year.

Correspondence.

Mr. Steven's Dental Communication.

DEAR SIR,—The publication of Mr. C. L. Steven's interesting communication to the Dental Society on dental and clavicular irregularities reminds me of a case in Cornelius Ward under Mr. Turner during August and September of last year.

A patient, C. E. S. (æt. 46 years) was admitted with a fractured patella, and gave a history of having some abnormality of the shoulder girdle. He was also totally deaf in the right ear and slightly deaf in the left ear, due to a blow in the face when a child. It was stated that a bone was displaced and the eustachian tube blocked, causing middle ear disease.

The skull and clavicles were radiographed for evidence of bony deformity, and the report was as follows: "Complete absence of both clavicles.

Defect in frontal bones in region of metopic suture. Symmetrical increased width of skull; bones of vault rather thin."

A second radiogram was taken to show the sternal ends of the clavicles, which were not visible in the previous plates, and the following result is recorded: "About 1½ inches of clavicles remain (sternal ends). Cannot see actual sternal extremities—bone a good deal atrophied."

Mr. Lewin Payne kindly saw the patient, and it was discovered that there were considerable irregularities in the dentition. Dental radiograms had been taken some time previously, revealing several unerupted teeth.

Mr. Worth was asked to X-ray the skull for evidence of bony abnormality and report upon the irregularities of the teeth. He reported that there were four unerupted mandibular incisors, and his findings with regard to the skull coincided with those recorded in the report above.

Dental extractions had been performed at various times, and it is believed that there were also some unerupted maxillary teeth present previously.

I trust that this further case may be of interest, and am indebted to Mr. Lewin Payne and to Mr. Worth for their kind permission to record it.

I remain,

Yours truly,

H. H. KENSHOLE.

Guy's Hospital,
London, S.E.1.
July 5th, 1928.

Sport.

Cricket Club.

Guy's *v.* C.U.A.C.O.

THIS match was played at Honor Oak Park on Saturday, June 30th, and resulted in a draw slightly in favour of the Hospital.

For Guy's, Peatfield batted very well for his 83, and, bowling for C.U.A.C.O., Butterworth got the "hat-trick."

Scores—Guy's, 192 for 7 (declared); C.U.A.C.O., 119 for 7.

Guy's

T. O. Garland, c. Mudd, b. Parnell	13
S. R. Peatfield, c. Smith, b. Mudd	83
T. P. Witherow, c. Collier, b. Butterworth	29
F. H. B. Spence, b. Butterworth	0
W. D. G. Jones, c. Mudd, b. Butterworth	0
R. J. Eustace, l.b.w. b. Mudd	17
A. J. D. Lewis, not out	24
J. Durr, c. Butterworth, b. Parnell	14
E. V. B. Widdowson, not out	8
Extras	4
Total (for 7 wkts.)	192

S. M. Whitteridge and J. P. O'Shea did not bat.

Bowling—Durr 5 for 54, Lewis 1 for 12, O'Shea 1 for 31.

Guy's *v.* St. Ann's.

THIS match was played at Virginia Water on Wednesday, July 4th, and resulted in a win for Guy's by 171 runs.

Guy's won the toss and elected to bat, Cameron and Peatfield opening the innings, the latter being unfortunately out before scoring. Cameron and Garland then made a prolonged stand, carrying the score to 135 before Garland was bowled within 9 of his century. His score included 3 sixes and 10 fours. The innings was declared closed at 254 for 9 wickets.

St. Ann's replied with a total of 83, Escombe scoring 43, Durr bowling well and taking 7 wickets.

Scores—Guy's, 254 for 9 (declared); St. Ann's, 83.

Guy's

H. Cameron, c. Willis, b. Harding	65
S. R. Peatfield, b. Escombe	0
T. O. Garland, b. Andrew	91
T. P. Witherow, c. Andrew, b. Harding	4
W. P. Roe, l.b.w. b. Andrew	9
R. J. Eustace, b. Andrew	0
J. Durr, c. Eastcombe, b. Willis	39
E. V. B. Widdowson, not out	16
D. Rees, b. Willis	14
S. M. Whitteridge, b. Andrew	1
R. E. Wiles, not out	3
Extras	12
Total (for 9 wkts.)	254

Bowling—Durr 7 for 34, Witherow 1 for 1, Rees 1 for 38.

Lawn Tennis.

Inter-Hospital Cup.

2nd. Round.

Guy's *v.* Bart.'s.

THIS match was played at home on Wednesday, June 13th, and resulted in a win for Guy's by 9 matches to 3, with 4 left unplayed. This was a very creditable piece of work,

as the Bart.'s team was by no means a weak one. Guy's won 5 out of the 6 singles.

Bruce-Pearson defeated his opponent rather easily 6–2, 6–2, mainly owing to the latter's erratic play and poor judgment in trying to get to the net on bad length ground shots.

Gaitskell and Min Sein also won easily, due to steady play and good judgment. They won by 6–0, 6–2, and 6–3, 6–1 respectively.

Booker was in his best form and hit the ball hard and often all over the court. He was playing really well and gave his opponent, who later in the day played a very sound game, no chance to get going. He won 6–3, 6–0.

Peregrine had to work very hard for his match, which went to 10–8 in the third set. His knowledge of the game and utter refusal to get rattled at critical moments enabled him to win a very good match. His ground strokes were, however, uncertain.

Lomax had bad luck to lose 6–4, 2–6, 8–6. At one time he led 4–0 in the final set, and after this should never have allowed his opponent to do more than see his dust. His weak ground strokes enabled the persistent tactics of a far inferior player to be successful.

The Bart.'s men improved somewhat in the doubles, but they were not in a state of mind favourable for winning matches after their failure in the morning. Min Sein and Lomax played well together and thoroughly deserved to win both the matches they played.

Semi-Final.

Guy's *v.* King's College.

THIS match was played at Honor Oak Park on Wednesday, June 27th. King's just won by the odd match, 8–7.

Of the singles, King's won 4 to Guy's 2. In every case except F. H. B. Spence's match, which he won in the second set, three sets had to be played before a decision was reached. Hassan beat Bruce-Pearson by 6–4, 4–6, 6–2.

At No. 2 Gaitskell had a very close match with his opposite number and just lost, 5–7, 6–2, 3–6. His opponent improved very much in the last set and was hitting the ball much the harder of the two—Gaitskell rather suffered from his inability to finish off a rally with a winning shot.

Min Sein was beaten also in the third set. Spence played a very sound game to beat his man 6–4, 6–0.

Booker lost 4–6, 6–2, 4–6. Archer scrambled home at 10–8 in the third set after a very grim struggle.

After lunch Guy's won 5 of the doubles' matches to King's 4. Bruce-Pearson and Gaitskell won against all three opposing couples. Against the King's first pair they lost the first set 6–4, but won the next two 7–5, 6–2. They were fortunate in that they got their opponents into such a state that in the final set they either both attempted to hit the ball or both left it to the other.

Spence and Min Sein beat their third pair, but lost to their first and second.

Similarly, Booker and Archer beat their third pair. At one point the matches stood at 7 all and they were left to decide the match with the King's second couple, and they made a very great effort to bring it off. Archer played a very good game indeed and was almost solely responsible for winning the second set at 9–7. He was playing easily the best game of the four. The third set was too much for them, however, and they lost it 6–3.

Golfing Society.

Staff Match, Sidcup, July 4th.

I REMEMBER quite early in my medical career that my father encouraged me to meditate well upon the rhythm of my golf swing—his eye was upon the commercial value of advertisement. He guessed well. There are many who realise that some of us cannot credit our various medical success to our working talents. I blush for having listened to such a base project.

But to those whose golf is played from more chaste motives there must be much enjoyment in these half-yearly outings at the Staff's invitation.

Golf claims great advantages as an intellectual pursuit. There is little of the primitive impetuosity and vulgar physical battering of other games. It can be a hard, even match and yet leave time for an appreciation of open country and, be the site well chosen, landscapes of enlivening beauty. And then the added pleasure of a convivial opponent—there is time to sip of his humour, of his friendliness, and to observe the manliness with which he faces adversity. It is a calm game that flavours well with meditation.

These enchanting cups—and others—one drinks to the full at these festivals. For modesty Mr. Kelsey Fry, resisting the general desire that he should take the chair at dinner, deserved a monthly medal. For a fine exposition of the opposite virtue Mr. Bulleid must be praised. He quite openly stated that he preferred to play No. 2 for the Staff rather than take advantage of a rather heavy handicap that God has seen fit to impose upon him. Mr. Davies-Colley, with no desire to hide his light behind a bunker, gave his handicap as 50—"Unto those——"

Mr. Lambrinudi dressed as well as Hagen, yet made no pretence to his ability. Dr. Ryffel drank ginger ale in an altruistic desire not to harm the

English public. Dr. Knott, in childlike innocence, showed great courage and tenacity in saving a match at the 18th hole that his partner had unobtrusively won a few holes previously.

You see how well the facts fit the case.

Our thanks to the Staff for their hospitality and large numbers.

Result—The Staff 12½ matches, the Students 8½ matches.

The Staff		*The Students*	
Mr. Cann (2 & 1)	1	K. Whitworth	0
„ Bulleid	0	C. D. Malone (3 & 2)	1
„ Malleson (2 & 1)	1	P. H. Lomax	0
Dr. Knott	½	H. B. Thornton	½
Mr. Lambrinudi	0	A. J. D. Gibbings (3 & 1)	1
„ Morgan	½	W. J. Cotton	½
Dr. Scott	½	O. Ive	½
Mr. Chapple (6 & 4)	1	R. F. Lomax	0
„ Hooper	½	W. L. Mountain	½
Dr. Ryffel (3 & 2)	1	R. L. Frost	0
Mr. Doherty (3 & 1)	1	P. M. F. Bishop	0
„ KelseyFry	½	E. E. Evans	½
„ Rowlands	0	E. Bellamy (2 & 1)	1
„ Davies-Colley (8 & 6)	1	D. B. Smallshaw	0
	8½		5½

Dr. Knott and Mr. Cann (2 & 1)	1	K. Whitworth and H. B. Thornton	0
Mr. Malleson and Mr. Bulleid	0	C. D. Malone and P. H. Lomax (4&3)	1
Mr. Chapple and Mr. M. W. Pilcher	1	R. F. Lomax and W. J. Cotton	0
Dr. Scott and Mr. Doherty (1 up)	1	O. Ive and P. M. F. Bishop	0
Mr. KelseyFry and Mr. Hooper	0	W. L. Mountain and E. E. Evans (2 & 1)	1
Dr. Ryffel and Mr. Lambrinudi	0	A. J. D. Gibbings and R. L. Frost (2 up)	1
Mr. Rowlands and Mr. Davies-Colley (3 & 1)	1	E. Bellamy and D. Smallshaw	0
	4		3

Swimming Club.

Inter-Hospital Gala.

ON Tuesday, July 3rd, the Inter-Hospital Swimming Gala was held at the Bath Club, the entertainment being, without doubt, the most successful yet held. For its smooth running and excellent arrangement we are indebted to the secretary, C. D. Malone, and to the very excellent officials that he provided.

Once again Guy's retained the two trophies, although the competition was far keener than in past years and the issue of the swimming was in doubt until the last event, the Team Race, was decided.

This race was the most magnificent yet seen in Inter-Hospital swimming—enthusiasm waxed to fever pitch as first one, then another, took the lead, until the few yards gained by Guy's enabled their last string to win from London and Bart.'s (dead heat) in record time.

The high order of the swimming was realised when in quick succession the 200, 100 and 50 yards records were broken. The first went to R. J. C. Sutton of Bart.'s, the second and third to K. Kirkland of London. Guy's obtained second and third places, and, with the Team Race, led London in the swimming events by 22 points to 18.

Owing to the illness of R. N. C. Smith our diving team was not at full strength, but J. C. Fry, a freshman, obtained third place.

In the final of the Water Polo Competition Guy's met Bart.'s, and, after an exciting game, the former proved the victors by 6 goals to 2. In the first half Sutton, the Bart.'s International forward, was prominent, and only close marking by Guy's prevented his scoring more than one goal. A good shot from Vartan put Bart.'s two ahead, but this lead was reduced just before half time by a goal from J. W. H. Jones. In the second half Bart.'s were constantly shooting, and only the excellent play of R. W. Stephenson, our goalkeeper, kept the score down. The Guy's efforts, however, were more successful, and goals were obtained by C. D. Malone (3), J. W. H. Jones (1) and L. Brown (1).

Cups and prizes were kindly presented by Mrs. Eason, and we must thank T. B. Layton, Esq., and J. Lewin Payne, Esq., for the cups presented for the Water Polo and Team Race.

Results

200 *Yards*—1st, R. J. C. Sutton (Bart.'s), 2nd, K. Kirkland (London), 3rd, J. W. H. Jones (Guy's), 4th, C. K. Vartan (Bart.'s).

100 *Yards*—1st, K. Kirkland (London), 2nd, J. W. H. Jones (Guy's), 3rd, C. D. Malone (Guy's).

50 *Yards*—1st, K. Kirkland (London), 2nd, C. E. M. de Gruchy (Guy's), 3rd, J. Bunyan (Guy's), 4th, C. K. Vartan (Bart.'s).

Team Race—1st, Guy's (R. W. Stephenson, J. Bunyan, O. M. H. Jones, C. D. Malone, J. W. H. Jones, C. E. M. de Gruchy.

Water Polo—Guy's (R. W. Stephenson, C. E. M. de Gruchy, J. W. Crow, L. Brown, J. W. H. Jones, C. D. Malone, O. M. H. Jones.

EDS. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

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PASSIM

THE problem of raising the wind was always a difficult one for the voluntary hospital, and our own case seems likely to be even more pressing than usual in the very near future. Only too often the sudden gust of a large donation is apt to leave the ship becalmed upon a sea of debt, and without even that steady breeze of income derived from suitably invested funds before which a slower yet more certain progress can be made. It is to this all-important question of endowment that the Governors have decided to devote immediate attention, and we are given to understand that the inauguration of a special appeal in this connection is possible at any moment.

Urgent calls for charity in other quarters clashed in a most unfortunate manner with the recent Bicentenary Appeal, which in consequence did not entirely fulfil its promise of relief from immediate financial difficulty, so that only three years later a further effort becomes imperative. Annual expenditure is now somewhere in the region of £150,000, while the annual income has contracted the awkward habit of falling short of this amount by roughly £10,000. At present about 50 per cent. of the annual income is derived from invested funds, the remainder taking the form of casual subscriptions and donations, together with receipts from patients and public authorities. The new appeal will therefore aim in the first place at further endowment providing income sufficient to wipe off the somewhat monotonous annual deficit, and at the same time to render the Hospital less dependent on the more precarious sources of support so variable and so difficult to gauge from year to year.

The success attending such an effort depends in great measure on public opinion and public interest in the cause. It is helpful to find that the coroner's jury sitting at the inquest on the victims of the recent railway accident near London Bridge wished to express their appreciation of the prompt service to the injured the "take-in" firm and others were able to afford on that occasion. If in the near future we are obliged to seek the means of carrying on the good work we are sure that the result will be expressed by the last words of a poem published in the *Guyoscope* for April, 1897 :—

> "Now that the time has come,
> We'll help you then," the Public cried,
> "To raise the needful sum."

WE have very great pleasure in announcing the election of Mr. Steward to the Council of the Royal College of Surgeons. The position of "Fellow in Council" is one as coveted as it is distinguished, and, furthermore, one which will be altogether suitably occupied by our present Senior Surgeon.

FRANKLY, we are disappointed. A fortnight ago, full of hope and zeal, we applauded the intentions of the then forthcoming Conference on the problem of cancer, confident that something of real value would come out of it. As, no doubt, the American delegates would have put it, "They'd surely show the world." Now that the

Conference is a thing of the past we feel rather dismayed when we realise that the world has been shown nothing beyond a rather acrimonious discussion on the lead treatment of cancer. The daily papers have seized on this particular discussion and turned it into a vulgar brawl between technical experts, putting it before the public in such a way that it held their attention to the exclusion of all other aspects of the Conference. And, furthermore, it seemed to hold the attention of the delegates themselves to such an extent that the Conference must have borne a strange similarity to two small boys yelling at each other, " Does ! " and " Doesn't ! " Without attempting to enter into a technical discussion of the " pros " and " cons " of the lead treatment, we feel that it has usurped more than its share of notice in the reatment of cancer. On Friday, July 20th, other methods of treatment—those of surgery and deep X-ray therapy—were included at Guy's in a demonstration arranged for the delegates to the Conference.

Perhaps all conferences are bound to be rather disappointing on account of their size and public character, and we can only hope that the innumerable private talks which are necessarily attendant on these big meetings may fill in the gaps in the main discussion. If this is not true we can but look with some trepidation at the big list of medical and surgical conferences due to take place this year

THE following House Appointments have been made :—

House Physicians—

To Dr. French, Mr. O. Plowright.
Dr. Poulton, Mr. W. F. Hudson.

House Surgeons—

To Mr. Fagge, Mr. W. S. McConnell.
Mr. Turner, Mr. J. R. Rickett.

Out-Patient Officers—

Messrs. D. Ellis, C. R. E. Freezer, T. G. Scott, E. M. B. West.

Assistant House Surgeons—

To Mr. Hughes, Mr. F. G. Booker.
Mr. Davies-Colley, Mr. L. J. Pitt-Payne.
Mr. Bromley, Mr. Louis Brown.
Mr. Slesinger, Mr. G. N. Wood.
Mr. Ogilvie, Mr. E. L. Graff.

Resident Obstetrician—

To Mr. Chapple, Mr. E. T. Clifton.

House Surgeon in the Ear, Nose and Throat Department—

To Mr. Layton, Mr. R. L. Harward.

House Surgeon in the Genito-Urinary and Orthopædic Departments—

Mr. H. I. Maister.

Ophthalmic House Surgeon—

Mr. M. Shaw.

Obituary.

Frederick Durham, M.B.(Lond.), F.R.C.S.(Eng.)

ON July 16th, 1928, Fred Durham passed away at the advanced age of 87. He left his home town of Northampton as a youth to enter the medical profession. Probably at the instigation of his brother, the late Arthur Edward Durham of Guy's, he became a student at that institution, where, after filling various minor appointments, he rose to that of Surgical Registrar. No doubt his experience in this post gave him an interest in pathological histology, since for many years of his active life he was indefatigable in preparing and examining specimens, though he never did much in publishing records. A not inconsiderable proportion of his time and energy was devotedly spent in assisting his brother. He took the M.B.(Lond.) in 1871 and the F.R.C.S. (Eng.) in the following year ; he held the post of Surgeon and eventually Consulting Surgeon at the then North-West London Hospital. For many years he took an active interest in the Royal Medical Benevolent Fund and remained on the committee of management up to his death. He was also a central figure in the old-established club of Guy's men known as Our Club.

Increasingly crippled with osteo-arthritis, he was a familiar figure for some 30 years at the Bath Club, which he made his home, and where he became endeared to many newer friends as he had been to his fast disappearing contemporaries.

H.E.D.

Henry Pottinger Keatinge, C.M.G., F.R.C.S.

HENRY POTTINGER KEATINGE, C.M.G., F.R.C.S., who died recently in Jersey, was the son of the late General R. H. Keatinge, V.C. He was educated at Uppingham and Guy's Hospital. He joined the Army Medical Service and was attached to the Egyptian Army 1884–90. He served through the Nile and Frontier campaigns with distinction—Medal with 3 Clasps, Bronze Star and 4th Class Osmanieh.

He was then attached as a teacher of anatomy to the Egyptian Government Medical School at Kasr-el-Aine, and in 1898, when the school was reorganised in accordance with Sir Cooper Perry's report, he was appointed Director of the School and Hospital, in which position he remained till his retirement in 1919.

In the earlier years of his appointment he was confronted with the difficult and unpopular duty of transforming an inefficient school run on Eastern lines into an efficient modern school on the European model. Vested interests, jealousies and local prejudices combined to make this a hard task, but in time he succeeded with the help of his staff in making the school a serious seat of teaching and research, since it is the only medical school in the country. The benefits which Egypt gained from this change can hardly be over-rated.

Dr. Keatinge's services to medicine were recognised by an Honorary F.R.C.S., an Honorary Fellowship of the Royal Academy of Medicine in Ireland, the C.M.G., the Order of the Medjidieh (II Class), the Order of the Nile (II Class) and other distinctions.

Dr. Keatinge was undoubtedly an autocrat—in Egypt at the time when he assumed charge no other form of control would have produced efficiency. But it was a kindly autocracy, and aimed solely at the good of the school. Members of the school could always rely on his backing them up, and if any of them found themselves in trouble, even of their own making, there were no limits to his active help and kindness. Outside his work he had many interests—he was a keen fisherman, and his roses were for many years the best in Egypt. He was a delightful and entertaining companion in private life, and even those from whom he differed most on official matters must feel that they have lost one of the kindest of personal friends. His best memorial is the success of the school which he spent a great part of his life in creating.

O. R.

Two Cases of Hysterical Paraplegia.

A Clinical Lecture by Dr. C. P. Symonds.

GENTLEMEN,—The first patient I shall show you this afternoon is an unmarried lady of 56 suffering from a functional weakness of the lower limbs which is now well on the way towards recovery. I shall not dwell much upon her history, but shall examine her with you and see if we can discover some points in the physical examination which may be of value in the distinction of functional from organic paraplegia.

When she was first admitted to hospital three months ago she complained of total loss of power in the lower limbs and had not walked for 9 years. As you will see presently, she is now able to walk without assistance and before she leaves the hospital will, I hope, be walking normally. She still, however, presents some weakness and rigidity of the legs.

To take the symptom of rigidity first. You will notice that when I ask her to let me take the left foot and bend it upwards at the ankle my attempt to do so is met with considerable resistance owing to contraction of the calf muscles. Such muscular rigidity is sometimes met with in cases of weakness of the limb due to an organic nervous lesion. The most notable of these is the so-called "clasp knife" rigidity encountered in lesions of the pyramidal fibres. In such a case an attempt at passive movement, such as I have been showing you, is met by tonic contraction of the calf muscles, which is at first maximal, but gradually yields to firm pressure, the passive movement becoming progressively easier. Hence, the term "clasp knife."

The other type of rigidity met with in organic nervous disease is seen more often in the upper than in the lower limb, and occurs in the symptom picture of paralysis agitans, in which, as you know, tremor, rigidity and weakness are the cardinal symptoms. In this disease also attempt at passive movement is met by resistance, but the resistance is of another kind, being from first to

last even. The limb, instead of being flail-like, as it should be in a normal person with muscles relaxed, yields stiffly owing to a continuous tonic contraction of the muscles. This is sometimes called the "lead-pipe" type of rigidity, and I need not dwell upon the reasons for this name. Sometimes the observer can discern that the muscles do not give way quite smoothly, but in a series of just perceptible jerks. When this is so the rigidity is said to be of the "cog-wheel" variety.

Now, in the patient I have just examined, the rigidity does not appear to belong either to the type of a pyramidal lesion or to that met with in paralysis agitans. If I try to analyse my impressions of the attempt at passive movement, I find the most striking feature is an increase in the resistance offered by the calf muscle, varying directly with the amount of force I myself apply in attempting to overcome it. I have not made any measurements in this case, but in order to illustrate my meaning may suppose that if I apply a force of 2 pounds I should just fail to overcome the resistance, and if I should apply a force of 10 pounds I should again just fail to overcome the resistance. This type of rigidity in which the resisting force varies directly with that employed by the observer is somewhat characteristic of a hysterical condition.

I need only mention in passing that before coming to the conclusion that the rigidity is indeed hysterical we have to make sure, in the first place, that there is no limitation of movement in the joints upon which we are experimenting, and, in the second place, that the patient is not consciously and deliberately opposing movement for fear of pain. Both these possibilities can be excluded in the present case.

We next come to the predominant complaint of weakness, and it is again valuable to begin with a consideration of the different types of paralysis due to organic nervous lesions and their several characteristics. We distinguish clinically between an upper neuron paralysis and a lower neuron paralysis. The former is due to a lesion of the pyramidal fibres or their cells of origin, and this lesion may be situated between the motor cortex and the termination of the pyramidal fibres in the spinal cord. The clinical features of paralysis of the upper neuron type are rigidity of the "clasp-knife" type which I have already described, an increase of the tendon reflexes and an extensor plantar response. We have already seen that the rigidity present in this patient is not of the "clasp-knife" variety, and you will observe now as I test them that the knee and ankle jerks are no brisker than normal and, equal on the two sides, although it is the left limb which is the weaker. Both the plantar responses are flexor. There is nothing therefore to suggest the presence of an upper neuron weakness.

Lower neuron paralysis is caused by lesions of the anterior horn cells or the motor fibres in the peripheral nerves. The chief clinical features of such paralysis are atrophy of the weak or paralysed muscles which is in proportion to the amount of weakness, and loss of the tendon jerks. Examining this patient, we do indeed find that the muscles of her legs are much wasted, but when we come to observe both lower limbs together we find that this wasting is generalised in its distribution and is not more than we might expect in a person who has been bedridden for nine years. We may note also that the wasting does not bear any proper relation to the degree of weakness, for the anterior tibial group of muscles of the left leg, in which the patient shows little or no power of voluntary contraction, are of a size equal to those of the right leg. We have already seen that the knee and ankle jerks are normal. There is no evidence therefore of a lower neuron lesion.

Our suspicions of hysterical weakness have already been aroused by the type of rigidity. They have been reinforced by the absence of any physical signs which would support the hypothesis of an organic nervous lesion. Let us see whether we can detect in the patient's attempts at voluntary movement any further hint of the functional nature of her weakness. When I ask her to dorsiflex her foot against my hand you will notice that she displays a great amount of effort, not merely confined to the limb concerned, but distributed throughout the whole bodily musculature, so that she strains and grimaces. On palpating the muscles of the anterior tibial group we find that they contract for a moment and then relax, the result being a kind of tremor in the limb without any adequate movement in the joint. We also notice on simultaneous palpation of the calf muscles and anterior tibial group that both are apt to contract at the same time. This intermittent or spasmodic effort with simultaneous contraction of antagonistic muscle groups is a valuable positive sign of hysterical weakness.

As the result of our physical examination therefore we have a *prima facie* case for the diagnosis of hysterical paraplegia, but, as you will see, we have arrived at this diagnosis largely by the method of excluding other possibilities. Before we are completely satisfied we should look for some direct evidence of hysteria in the state of the patient's mind. "Hysteria," as you know, is a term which dates back to Hippocrates, who supposed, on account of the predominance of

hysterical symptoms in women, that the condition had something to do with the uterus. We owe to the French school of neurologists the first clear realisation that hysteria is primarily a mental disorder. The proof of this is that hysterical symptoms may be removed, or, on the other hand, may be induced, without any physical interference whatever, by alterations in the patient's mental attitude. I am not going to say anything more about this patient's mental state except that it has been gone into and positive evidence of a hysterical condition has been found. Without such investigation it is doubtful whether we should have produced as much improvement as you now see.

In order to illustrate the mental condition in hysteria I shall show you another patient, a single woman aged 48, whom we cured of a similar condition and who has now been quite well for the past three years. As you will see, she stands and walks normally and is able to go out shopping and go for walks alone. When I originally saw her in January, 1925, she was in a home for incurables, where she had lain for some time, and she had actually been bedridden for seven years. The diagnosis of hysterical paraplegia was arrived at on much the same grounds as in the patient you have just seen.

Now, the essential feature of the mental state in hysteria is a dissociation of the personality. The patient with a hysterical disability usually declares herself only too anxious to get well, and to the inexperienced observer it will come as a surprise to find such a person with a functional paralysis, for which there is no physical cause, declaring herself not merely willing but anxious to move the limb, and yet unable to do so. It would seem as if the patient wants to make the movement, but at the same time does not want to do so. Anyone who has tried to deal with a case of hysterical paralysis by persuasion will have experienced this impression, and, indeed, may have become exasperated and even come to the conclusion at times that the patient when she says she would give anything to be well is really lying. But actually, if we admit dissociation of the personality to be the basis of the hysterical condition, we may allow that the patient *may* at the same time want to get well and want not to get well—that is to say, that one part of the personality is anxious to be relieved of the disability, the other part of the personality does not want to give it up. Of course, there may occur to anyone a situation in which the excuse of illness offers the simplest way out of a difficulty, and under such circumstances illness may be pretended with a full realisation of the motives at work and the advantages and disadvantages of the plan. This is malingering. In hysteria we have reason to believe that we are dealing with a different state of things and that the patient is not consciously simulating illness, but is unaware of what is going on in her own mind. This is difficult to prove, but anyone who has had the experience of treating a hysterical patient will have obtained the impression that the patient's belief in the disability is a genuine one. The difference between the malingerer and the hysteric is, in fact, that the former is deceiving other people, the latter is deceiving herself into the bargain. There is one obvious advantage in this. No self-respecting person can malinger without remorse, but the hysteric, so long as she honestly believes herself to be ill, can obtain all the advantages of illness without any injury to her self-respect.

But you may ask how can it be that a person who has once been told that there is no physical basis for her complaint can still hold to her old belief in its organic nature. The answer is to be found in the fact that our beliefs about ourselves and the world around us are governed not only by reason but by prejudice, and our prejudices often depend upon motives of which we are not clearly aware. Thus, a patient with an unconscious motive for remaining ill will tend to collect and store every particle of evidence in favour of this belief and at the same time reject all evidence to the contrary, and a belief of this kind which has been firmly established for some time is not easily shattered by argument.

Admitting, then, the possibility that the patient's belief in the organic nature of the disability may have its origin in unconscious motives, what may these unconscious motives be? What, you may ask, could possibly be the motive for wishing to be paralysed in both legs? Let us take the case of our second patient and analyse her story. She was born in good circumstances, had a good education and was not brought up to expect to earn her living. When she was about 25 her parents lost all their money and she was obliged to cast about for some means of obtaining a livelihood. This she eventually did by taking work as a nursery governess—work for which she had the greatest possible distaste. She would have given anything to be out of it. At the age of 29 she went abroad with an officer's family to one of the Colonies. Whilst there she became attracted by a man nine years younger than herself who made her an offer of marriage. This man was a private soldier and an officer's servant. Now, she was in two minds about this. She was fond of the man and welcomed any opportunity of escaping from the work which she disliked so much. On the other

hand, his age and social rank were strong arguments against the marriage. Eventually she consented to become engaged. She came home to England, the arrangement being that he should shortly follow. He was to come home later and they were to be married when he arrived. Shortly before this event she had an illness which, from the account she gives, appears to have been a mild infective arthritis. She was, anyway, in bed for two or three weeks with pain and swelling in her joints. The possibility of acute rheumatism was considered, and some doubt was expressed about her cardiac condition. She was still in bed when her fiancé arrived, and was clearly not well enough to be married on the date that had been arranged. The wedding was therefore postponed, and it was arranged that she should name the day when she got better.

Now, consider her position at that time. So long as she was ill her relatives were prepared to provide for her. She was well looked after and had not to work for her living, and all this without paying the price of a marriage which at the back of her mind she felt would be disastrous. There were clearly motives for postponing her recovery. So long as she could honestly believe that she was ill she could feel that she was doing her fiancé no injustice, because it was through no fault of her own that the wedding was delayed. Her fiancé and relatives became anxious about her and the opinion of various physicians was taken. Some of them thought that she was suffering from an organic paraplegia, and she was sent into a hospital for investigation and treatment. There she appears to have been thoroughly investigated and the diagnosis of functional paraplegia was made. She was ordered massage and electrical treatment and, after a period of three months, was discharged no better than before. She herself was told nothing, and when she left the hospital had come to the conclusion that the doctors had found her to be suffering from an incurable disease. They had done their best for her and could do no more, but they had not liked to break to her such dismal news. Thus was her honest belief in the physical basis of her illness reinforced by experience. Time passed and her engagement was broken off. She still, however, remained an invalid and was supported by her family. Finally, they determined to make permanent provision for her as best they could, and obtained for her a vacancy at the home for incurables, where she was when I first saw her.

Now this patient when I told her that her paralysis was curable expressed herself delighted. When, however, she was admitted to hospital and it was explained to her that there was no lesion of muscles, nerves or joints to account for the paralysis, and there was therefore no reason why, if she tried, she should not move her legs, she was surprised and rather indignant, bringing in evidence the original opinion that she was suffering from an organic condition, the fact that the hospital authorities had failed to cure her, that she had been examined by two other physicians before being admitted to the hospital for incurables, and that she had been there for some time without any improvement. In fact, one gained the impression that she was trying to disprove the opinion just expressed to her by every possible means. My House Physician at the time, Mr. S. P. Jacobson, and I spent many subsequent hours of talk with her and brought her gradually to understand that such a belief as she held in the physical basis of her disability, however honestly maintained, might yet depend upon prejudices of which she was not aware. As examples we related to her cases of functional disorder observed amongst soldiers during the war, where the unconscious motive as a rule was obviously the instinctive desire for self preservation. A man who received some trifling injury in the line and began to wonder whether it was serious or not would very easily begin to store up evidence in favour of a serious condition and reject evidence to the contrary.

In this way we led up to the question whether she herself had any unconscious motive for believing herself to be physically disabled. We began to question her as to the circumstances of her life at the time that her illness commenced, and obtained the story which I have already related to you. We brought her gradually, and not without a good deal of distress and humiliation, to realise that unconsciously she had been exploiting illness to her own advantage. We then persuaded her first to attempt movements in bed and subsequently to stand and walk, and at the end of a week or two we had her walking without assistance. She was not yet, however, walking normally, and in conversation with her we noticed that she was still not prepared to give up entirely the idea of a physical cause for her illness. We then began to help to make plans for her future. We assumed with her that she would get perfectly well and would therefore have to go out again into the world and make her own living We approached her relatives to see what assistance they would give. Their attitude in the matter was quite definite. They were in difficult circumstances themselves. They had secured patient's admission to the home and they were not prepared to do anything more for her.

The patient had no money at all of her own, so that the position was indeed a difficult one. We made tentative arrangements with a hostel to take her while we found her a post, and we discussed these plans with her. Next day she complained of a pain in her back and her legs again had become rigid and paralysed. She was quite convinced that there was some organic lesion in her spine which we had overlooked, and demanded an X-ray, which she thought might discover the lesion that we had missed. The X-ray was taken and proved negative, but she clung stedfastly to her belief that there was a physical cause for her trouble, and this belief no amount of argument could shake. Now, it was not difficult in the light of what we already knew to understand what had happened. The news which we had brought her had placed the patient again in a situation which was too much for her. Unable to cope with it she had fallen back into invalidism as the only possible refuge. You may think this unpractical, but it is just this unpractical way of reacting to a difficult emotional situation which is characteristic of the neurotic. We tried to get her to understand the situation as it seemed from our point of view, but with no success. It appeared that she was actually incapable of carrying the load demanded of her. We therefore set about seeing how we might lighten this load, and eventually arranged with the matron of the home that the patient might stay on there indefinitely as a voluntary worker, being given sewing to do and employed on errands of shopping. We told the patient this and again began our task of explanation and persuasion—this time with success. At the end of two or three weeks we had her walking normally, and the whole case appeared to have come to a satisfactory conclusion. It was arranged that on a certain date she should return to the home. The day after the receipt of this news, however, she again relapsed. She woke up with a pain in her back, found her legs stiff and weak and reverted to the old belief that we had still overlooked some lesion in her spine. Now, it was a little difficult to understand what could be the cause of this relapse, but on consideration there did appear to be a possible motive for it. One of the difficulties encountered by the hysteric is that of a graceful recovery. She is apt to fear, and this not without reason, that others, seeing her disability cured without any drastic physical treatment, will imagine that she has been malingering. The atmosphere of a home for incurables is perhaps particularly likely to foster such uncharitable gossip. It was at this point that the matron of the home in question, whose co-operation throughout was of the greatest value, developed a plan which enabled us to put a satisfactory end to our treatment. She arranged that on the day of the patient's return a special thanksgiving service should be held in the chapel for her recovery. This, she judged, would be effective in silencing unkind criticism. The arrangement was made that this should be done when the patient was well enough to return, and the matron told her of this when next she visited her at the hospital. We then began again our treatment by means of explanation and persuasion—this time with the permanent success which you have seen exemplified by the fact that the patient now has full and normal use of her limbs. She appears quite happy and during the past three years has proved a very useful member of the society in which she lives.

It may be said of this case that our cure has not been a complete one. Ideally, we should have got the patient to digest and conquer each difficulty as it arose and should have insisted on her going out into the world again and learning to depend entirely upon her own resources. This certainly should be the ideal at which we should aim in treating the neurotic, but in practice we have to realise that the ideal is not always attainable, and we have to be content with the most satisfactory compromise that we can arrange. The story will at any rate, I hope, have illustrated to you the genesis of a neurosis and the method of treatment employed.

There are, of course, alternative methods of treating hysterical conditions. The disability ultimately depends, as we have already seen, upon the patient's fixed and genuine belief in the organic nature of her symptoms. In the treatment of the two cases you have seen to-day we have aimed at removing this belief by analysing and dissolving the mental processes underlying it. Sometimes the belief may be more rapidly destroyed by suggestion—that is to say, the patient may be subjected to some dramatic form of physical treatment of a kind in which the uninformed layman has implicit credence, as, for instance, electricity, and told that this will cure her. This kind of treatment, given with sufficient confidence and applied with arguments of sufficient force, will often be effective, but only in exceptional cases will it prove of any permanent value. As long as the mental processes upon which it was founded are present the neurosis will reappear, if not in the same form, in some other direction. The exceptional cases in which suggestion, of the kind I have described, effects a permanent cure, are those in which the reasons for the unconscious motive have already gone, for instance, in the case of a hysterical paralysis in a workman, originally based upon a claim for compensation, in which the claim has been settled. Under such circumstances the patient's difficulty may be simply that

of recovery without damage to his self-respect and prestige, and some new form of electrical treatment may offer him just that opportunity for which he is waiting.

There are two lessons in particular which I wish you to carry away from this lecture. One is that, when you encounter a case of paraplegia, even if others have pronounced it hopeless, you should make your own neurological examination and draw your own conclusions. The second is that, having made the diagnosis of hysteria, you should not be content with this, but should hold yourself responsible for its treatment.

Bibliography of the Published Writings of the Surgical, Medical, Dental and Teaching Staff of Guy's Hospital.

Compiled by G. A. R. Winston, Wills Librarian.

THE Bibliography of the published writings of the Staff of Guy's published herewith concludes the year 1927. Although the compiler has endeavoured to make the list as complete as possible, it is realised that there may be a few omissions, particularly in those cases where papers have appeared in obscure journals. The Wills Librarian would therefore be glad to receive information concerning papers written by the present Staff of the Hospital in the case of any paper having been omitted from the published lists.

A correction has to be made to the Bibliography published in the GAZETTE of July 14th last. Under the papers by Sir Wm. Hale-White "Golding-Bird (1814–54)" "Asst. Surg." should read "Asst. Phys."

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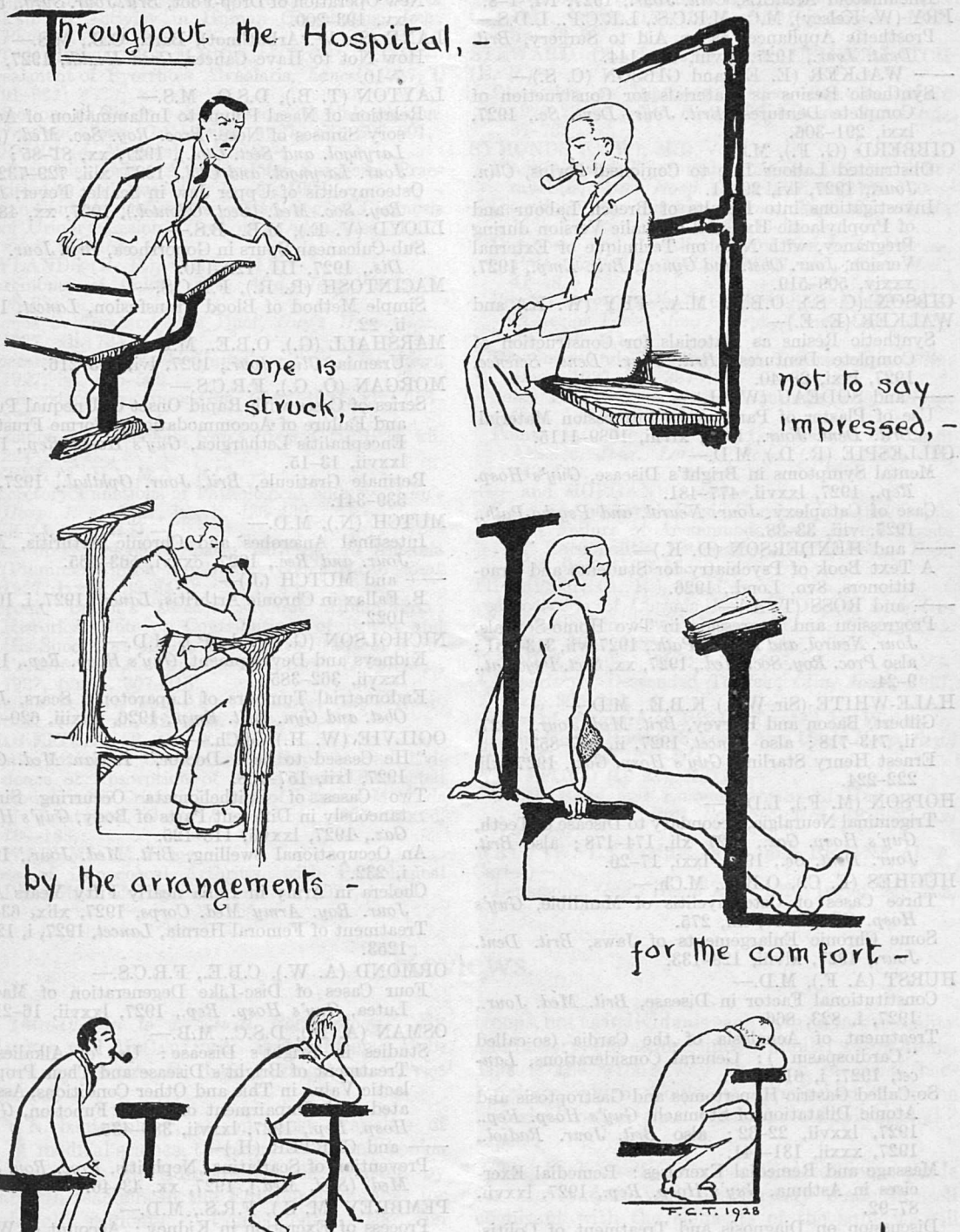

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Reviews.

An Introduction to Practical Bacteriology. By MACKIE and MCCARTNEY. 2nd Edition. Published by Messrs. E. & S. Livingstone. *Price* 10*s.* 6*d.*

ON bacteriology, as on most branches of medical science, there are books and books. This is an Edinburgh book, written by Edinburgh teachers in the Edinburgh manner for Edinburgh students. Consequently, the ten thousand and one facts of elementary bacteriology all find a place here. They are drawn up, as it were, in review order, and the student comes to know them as the general knows his marshalled troops, not as individuals each with an individuality and history, but as long lines of similar automatons. This is the wrong way to teach practical bacteriology, which should be approached from the historical rather than from the "applicational" aspect.

The book itself, as a practical reference guide for the student who has already made himself cognisant with the elements of the subject, will be found useful in several ways. There is an account of the new system of classification and nomenclature of bacteria which has recently been elaborated by the Society of American Bacterio-

logists, and which follows strictly the accepted rules of biological classification. Consequently, we find included in the genus *Neisseria* all the gram-negative cocci with the exception of the organism of Malta fever, which at last finds its true place among the gram-negative bacilli. The term *Micrococcus* is now reserved for the gram-positive organisms, of which *M. luteus* is the type species, and *Micrococcus tetragenus* is now blessed with the name of *Gaffkya*. It is rumoured that since reports of this momentous change have been generally circulated, *Micrococcus tetragenus* has become non-pathogenic and is threatening to extinguish itself completely.

On the more classical aspect of bacteriology there are interesting and practical sections on the organisms of water and milk, on the guinea-pig test for virulence of the Klebs-Lœffler bacillus in carriers, on the diagnosis of amœbic and bacillary dysentery, and on the "filterable viruses." In addition, full acounts are given of the Dick Test and Schultz-Charlton Reaction in scarlet fever, and of the Schick Reaction in diphtheria. There is much information regarding the more important pathogenic organisms of domesticated animals that the veterinary student may find useful, and the system of cross-references and the index are excellent. But there are more eminently practical and readable books on the subject, and we do not advise the student to invest his money in a volume which will find a permanent and undisturbed home on the top shelf.

Outlines of Dental Science Vol. VI—Dental Anatomy. By HEADRIDGE and GIBSON. Published by Messrs. E. & S. Livingstone. *Price* 8*s.* 6*d.*

AN excellent book has appeared in the shape of Volume VI of the *Outlines of Dental Science*, subject Dental Anatomy. The authors, Messrs. Headridge and Gibson, are to be congratulated on producing a very readable little work. In the boiling down of any large subject the criticism can always be levelled that one section has been unduly curtailed at the expense of another. Nevertheless, the author's would seem to have been very drastic in their cutting down of their chapter on the Dental Tissues.

The description of the oral cavity and adjoining parts is good, as also that of the macroscopical appearances of the teeth.

There is obviously not space for a large number of pictures, but the photographs of the ungulate molars caught the eye.

It is a pity that it was not possible to include the whole of the subject matter of Part III*b* of the First Professional Examination (L.D.S.) in the one volume. For the addition of a little physiology and histology, even if the size of the volume had been increased by 25 per cent., would have saved the reader the annoyance of having to go elsewhere for these subjects and would have been worth while.

The volume is to be commended to readers.

Surgical Anatomy. By GRANT MASSIE, M.B., M.S.(Lond.), F.R.C.S.(Eng.). Published by Messrs. J. & A. Churchill, London. *Price* 15*s.*

THIS book has been written in an attempt to keep the study of anatomy of lively interest in the mind of the student during his clinical period and to help him to refresh his memory even after qualification.

It is divided into six main parts, dealing in turn with the Head and Neck, the Upper Limb, the Abdomen and Pelvis, the Lower Limb, the Thorax and the Vertebral Column, with appropriate sub-divisions. In each sub-division the main anatomical facts are presented, followed in each case by points of surgical importance.

The anatomical facts are skilfully selected, and include notes on surface anatomy and developmental anatomy, where these are of importance. The clinical application of these facts is brought out in relation to fractures, dislocations and nerve injuries, and to certain operations.

The diagrams (which are plentiful) and the plates are clear throughout. Many of these are entirely new, and well worth a close study.

It seems unfortunate that the *old* anatomical terminology should still be upheld in a new publication of this sort. It is true that it is still used by a large number of clinical teachers in London, but the time must surely soon come when even London will conform, as far as possible, with the rest of the world in attempting to obtain uniformity in nomenclature. The difficulty of obtaining standard text books of anatomy printed in the old terminology speaks for itself.

The book is written in clear and flowing style and is well produced. It can be strongly recommended for students in the clinical and pre-examination period, and, as a book of reference, after qualification.

Notice.

Guy's Hospital Medical School.

FINAL FELLOWSHIP COURSE.

September–November, 1928.

THE next Final Fellowship Course will commence on Monday September 3rd. Guy's men who wish to join the Course must make early application, as most of the vacancies reserved for Guy's men have already been allotted.

T. B. JOHNSTON. *Dean.*

Sport.

Cricket.

Inter-Hospital Cup.

Semi-Final.

Guy's *v.* University College Hospital.

THIS match was played at Perivale on June 22nd, and resulted in a win for Guy's by 112 runs.

Guy's won the toss and batted first, Cameron and Peatfield opening the innings. The first wicket fell at 5, Cameron being caught by Mann. Garland and Peatfield, however, made a good stand and both batted well to make 47 runs each, the former scoring 3 sixes. Spence also played a good innings for the Hospital before being caught at point by Mitchell.

The last wicket fell at 226.

Our opponents replied with a total of 114, of which Newstatter scored 49. At first they scored rapidly, but after the fifth wicket had fallen runs seemed more difficult to obtain. Both O'Shea and Lewis bowled well for Guy's, the former being especially good.

The fielding on the whole was good, and Garland kept wicket remarkably well.

Scores—Guy's, 226 ; U.C.H., 114.

Guy's

H. Cameron, c. Mann, b. Naz	3
S. R. Peatfield, b. Newstatter	47
T. O. Garland, b. Naz	47
T. P. Witherow, c. Robeiro, b. Newstatter	16
F. H. B. Spence, c. Mitchell, b. Fernandez	45
R. J. Eustace, b. Naz	0
E. V. B. Widdowson, b. Naz	2
A. J. D. Lewis, c. Fernandez, b. Newstatter	20
J. Durr, l.b.w. b. Pearce	15
S. M. Whitteridge, b. Stratford	0
J. P. O'Shea, not out	10
Extras	21
Total	226

Bowling—O'Shea 5 for 38, Durr 1 for 48, Lewis 3 for 8.

Final.

Guy's *v.* St. Thomas's.

THIS match was played at Honor Oak Park on July 9th and 10th, and resulted in a win for Guy's, who were without Garland, Durr and Lewis, by an innings and 135 runs.

Guy's won the toss and elected to bat, Cameron and Peatfield opening the innings. We started badly, Cameron being bowled by Marshall with a total of only 12 runs on the board. Witherow followed and, together with Peatfield, brought the score up to 55 before the latter was caught by Walker.

Witherow (54) batted well before being bowled by Marshall.

Eustace and Spence now made a fine stand, putting on 229 runs. The former, after he had settled down, played an extremely good game, scoring 15 fours out of his total of 149, and only gave one real chance, a catch, which was taken by Clayton. Spence (101) commenced very shakily, but later batted well and scored runs quickly.

Guy's were all out for 365, the last 6 wickets putting on only 27 runs.

Light and Walker opened the innings for St. Thomas's, but found it difficult to score off the bowling of O'Shea. By 7.30, the time fixed for drawing stumps, 7 wickets were down for 110, out of which Winkworth had scored a useful 45.

On Tuesday morning everything went our way, O'Shea and Rees taking the remaining wickets, St. Thomas's being all out for 155. The follow-on was enforced, and against the bowling of O'Shea and Rees our opponents fared badly and were dismissed for 85.

Both O'Shea and Rees bowled extremely well throughout the match.

In the absence of Garland, Spence kept wicket for Guy's.

Scores—Guy's, 365 ; St. Thomas's, 155 and 85.

Guy's

H. Cameron, b. Marshall	11
S. R. Peatfield, c. Walker, b. Clayton	11
T. P. Witherow, b. Marshall	54
R. J. Eustace, c. Clayton, b. Marshall	149
F. H. B. Spence, c. Walker, b. Marshall	101
W. D. G. Jones, l.b.w. b. Clayton	1
L. T. Wride, c. Graves, b. Clayton	0
D. J. Rees, l.b.w. b. Clayton	10
E. V. B. Widdowson, not out	9
J. P. O'Shea, b. Clayton	4
S. M. Whitteridge, c. Graves, b. Marshall	2
Extras	13
Total	365

Bowling

1*st Innings*—O'Shea 6 for 46, Whitteridge 1 for 40, Rees 3 for 28.

2*nd Innings*—O'Shea 4 for 35, Rees 6 for 23.

Guy's *v* Wellingborough Masters.

THIS match, which was played at Wellingborough on June 20th, resulted in a win for the Hospital by 41 runs.

Cameron and Witherow opened the innings for Guy's, and together made a good first wicket stand, the former scoring a valuable 61 before being out l.b.w. to Dorr. Both Witherow (37) and Jones (39 not out) also batted well for the Hospital. Guy's were all out for a total of 220.

Our opponents replied with a total of 179, Stokes batting well for his 73.

Scores—Guy's, 220; Wellingborough Masters, 179.

Guy's

H. Cameron, l.b.w. b. Dorr	61
T. P. Witherow, c. Barratt, b. Draker	37
W. P. Roe, l.b.w. b. Richmond	7
R. J. Eustace, b. Draker	9
E. V. B. Widdowson, c. Dorr, b. Draker	6
A. J. D. Lewis, b. Lewis	12
W. D. G. Jones, not out	39
J. B. Schofield, run out	9
R. A. P. Hogbin, c. Barratt, b. Draker	4
R. M. Outfin, b. Draker	0
J. P. O'Shea, st. ——, b. Dorr	17
Extras	19
Total	220

Bowling—O'Shea 3 for 45, Jones 3 for 32, Cameron 1 for 30, Schofield 1 for 37, Hogbin 1 for 0.

Guy's *v.* Wimbledon.

THIS match was played at Honor Oak Park on June 23rd, and resulted in a win for Wimbledon after an exciting finish.

Guy's won the toss and elected to bat. After the fall of the first wicket for 3 runs, Peatfield and Witherow made a useful stand. At the tea interval the innings was declared closed, the score being 217 for 6 wickets.

In this match the bowling was considerably weakened by the absence of O'Shea, Durr, Lewis and Whitteridge.

Our opponents took advantage of this fact and replied with a total of 222 for 5, the rapid scoring being mainly due to the fine first wicket partnership by Steward (78) and Robins, who put on 107 runs for the first wicket.

The Hospital fielding was not up to the good standard shown in previous matches.

Scores—Guy's 217 for 6 (declared); Wimbledon, 222 for 5.

Guy's

H. Cameron, c. ——, b. Goodfellow	0
S. R. Peatfield, c. ——, b. Fitz-Archer	71
W. D. G. Jones, hit wkt. b. Goodfellow	3
T. P. Witherow, b. Walter	38
T. O. Garland, c. ——, b. Fitz-Archer	39
R. J. Eustace, not out	20
E. V. B. Widdowson, c. ——, b. Walter	12
J. B. Schofield, not out	4
Extras	30
Total	217

Fulford, Richards and Leckie did not bat.

Bowling—Eustace 3 for 46, Witherow 1 for 8, Garland 1 for 74.

Lawn Tennis.

Junior Inter-Hospital L. T. Cup.

Final.

PLAYED on St. Thomas's ground at Chiswick on Sunday, July 8th, in perfect weather. The 2nd VI put up a creditable performance in beating last year's holders by the comfortable margin of 9 matches to 2—4 unplayed.

The first single, Kurtz *v.* Jerram, was a very close and exciting match. Kurtz played very steadily against a very "sticky" opponent, and registered a creditable win.

Day *v.* Goldsmith, a long match, characterised with full length driving on both sides, Day being the more severe of the two, particularly on the forehand. But for a bad patch in the second set he should have won sooner.

Hollis *v.* Stanley, another long match, in which Hollis played well and pulled through.

Crombie *v.* Bell, a match in which Crombie played exceptionally well. His "telling" spin service, good driving and clever overhead strokes gave him an easy win.

Ellis *v.* Scott. Ellis struck bad form and could do nothing right against a man he ordinarily ought to have beaten.

Gilbert *v.* Clayton unplayed.

Guy's were now leading by 4 matches to 1.

In the doubles, against the first couple Goldsmith and Stanley, Ellis and Crombie were 6–8, 0–4 when Ellis suddenly struck form, and then took a sequence of 4 games to draw level and then lead 6–5, and went out on Crombie's service. In the third set our men proved themselves superior, and took the match and final set at 6–2. Against the second pair they were in great form and won easily.

Kurtz and Hollis against the second pair Bell and Sandford, could not combine, and found the net far too often. However, they won the next match against the third pair, Smith and Paxon, when they played much better.

Day and Gilbert played very well together. They disposed of the third pair with more ease than the score indicates and then went on to beat the first pair—a distinctly good performance.

And so the 2nd VI brought the Junior Cup back to Guy's to adorn the "Spit" once more. The team is to be congratulated on its excellent performance.

Singles

C. Kurtz (capt.) beat N. M. Jerram, 6–4, 6–8, 6–4.
P. Day beat A. Goldsmith, 6–4, 9–11, 6–4.
G. Hollis beat R. Stanley, 6–4, 3–6, 7–5.
H. Crombie beat W. A. B. Bell, 6–3, 7–5.
S. P. Ellis lost to C. P. Scott, 0–6, 3–6.
F. Gilbert and L. G. Clayton unplayed.

Doubles

Crombie and Ellis—
Beat Goldsmith and Stanley, 7–5, 6–8, 6–2.
Beat Bell and F. Sandford, 6–2, 6–1.
Kurtz and Hollis—
Lost to Bell and Sandford, 6–4, 3–6, 5–7.
Beat Smith and Paxon, 7–5, 6–3.
Day and Gilbert—
Beat Smith and Paxon, 6–3, 6–2.
Beat Goldsmith and Stanley, 6–2, 5–7, 6–4.

Junior Tennis Cup—Previous Rounds.

IN the first round Guy's got a walk over from Middlesex. In the second round we played Bart.'s and beat them easily by 10 matches to 2, winning all 6 singles and 4 out of the 6 doubles matches played.

In the semi-final we played King's College Hospital on their own ground on June 27th. We again had an easy win by 12 matches to 1, two doubles not being played.

Singles

C. E. W. Kurtz (capt.) lost to King's 1, 2–6, 6–4, 8–10.
P. Day beat King's 2, 6–2, 6–2.
G. Hollis beat King's 3, 6–4, 6–3.
H. M. Crombie beat King's 4, 6–3, 4–6, 6–1.
S. P. Ellis beat King's 5, 6–2, 6–4.
F. Gilbert beat King's 6, 6–2, 6–3.

Doubles

Crombie and Ellis—
Beat King's 1, 6–4, 6–3.
Beat King's 2, 6–2, 7–5.
Beat King's 3, 6–2, 7–5.
Kurtz and Hollis—
Beat King's 2, 6–4, 6–4.
Beat King's 1, 6–3, 4–6, 6–3.
Did not play King's 3.
Day and Gilbert—
Beat King's 6, 6–3, 4–6, 6–1.
Beat King's 2, 6–4, 7–5.
Did not play King's 1.

Guy's *v.* Prof. T. B. Johnston's VI.

THIS match was played at Honor Oak Park on Sunday, July 22nd, and was one of the most enjoyable we have had this season.

It is not often that we are allowed to see members of the Staff at play, but when we do we find we are still learning from them. They were more than punctual, which few teams are, and their energy on a very warm day will long be remembered.

The Dean arrived with a large supply of enthusiasm and several changes of raiment, including, we believe, 10 clean handkerchiefs. There was no doubt that he meant business. He was partnered by Mr. Howitt, and it would be hard to say which was the more effective. Mr. Howitt at the net seemed to possess an uncanny knowledge of the ball's intended direction and by diving suddenly to one side or the other, often before the ball was hit, intercepted it so frequently that it almost gave up trying. The Dean preferred the more easily comprehended method of waiting to see exactly where the ball was going before he started running. But he ran to such effect that the ball seldom managed to avoid him. In a five set match a man is said to run about 10 miles—at a conservative estimate the Dean ran about 15 on Sunday and Mr. Howitt must have run only a few yards less. Moreover, they ran for the sheer joy of running. Many times they were both in one court, but if the ball struggled back to the opposite corner one or both would be there to receive it. On two occasions, at the end of a rally, they were found on opposite sides of the net; each time Mr. Howitt had underestimated his partner's activity and given up the point, but the Dean had kept the ball in play by almost superhuman efforts and carried on the rally by himself. Bruce-Pearson and Gaitskell were fortunate to meet them before they really got going and won by 6–2, 9–7 after a long struggle in the second set.

After tying a fresh handkerchief round his head and gargling with pure water, the Dean was ready to go on. Mr. Howitt used his water for drinking purposes. They then proceeded to beat Kurtz and Day, who took them to three sets. After tea they went on to beat Peregrine and Min Sein in the same way.

On the second court Mr. Pritchard and Mr. Eckhoff were knocking the covers off the balls. They were not so successful as their first pair, but Mr. Eckhoff has a conscience—he knew he had abandoned his firm, which was taking in. He also

has a newly modelled knee joint, and, under the circumstances, he produced an astonishing number of terrifying shots.

Mr. Frank Cook and Mr. Lambrinudi constituted our opponent's third pair. They were the only couple on either side who played 9 sets, in spite of the fact that Mr. Lambrinudi had strained his tendo Achilles—as Mr. Cook said, "He knows the name of every damn tendon in the body!" They played a very subtle sort of game, as you realised when you found yourself in your partner's court after returning Mr. Cook's service from the left court. When the Dean runs you realise that he is exerting himself; Mr. Cook seems to get there without any obvious effort—but there is probably a catch in this! Mr. Lambrinudi does not run a great deal because he is already there—or thereabouts.

The net result of the afternoon was that Guy's won by 7 matches to 2, both of which were won by our opponent's first pair.

Results

Professor Johnston and Mr. Howitt—
Lost to Bruce-Pearson and Gaitskell, 1–6, 7–9.
Beat Min Sein and Peregrine, 6–3, 2–6, 6–4.
Beat Day and Kurtz, 6–3, 8–6.

Mr. Pritchard and Mr. Eckhoff—
Lost to Bruce-Pearson and Gaitskell, 4–6, 3–6.
Lost to Min Sein and Peregrine, 1–6, 0–6.
Lost to Day and Kurtz, 1–6, 1–6.

Mr. Cook and Mr. Lambrinudi—
Lost to Bruce-Pearson and Gaitskell, 3–6, 6–4, 1–6.
Lost to Min Sein and Peregrine, 6–3, 1–6, 0–6.
Lost to Day and Kurtz, 6–4, 5–7, 2–6.

Hospital Information, etc.

Pass List.

UNIVERSITY OF CAMBRIDGE
SECOND EXAMINATION FOR MEDICAL AND SURGICAL DEGREES
Easter Term, 1928
PART II Anatomy and Physiology
A. M. Weston
L.D.S.
FINAL EXAMINATION
June, 1928
PART I Surgery

D. B. Bergh	C. L. Knight
D. E. C. Robertson	W. H. Shrigley
G. H. S. Weir	C. A. W. Archer
D. S. Clogg	G. J. Douglas
H. S. Gare	E. C. Irish
T. L. Vaisey	A. L. Wraight

PART II Dental Surgery

D. B. Bergh	C. L. Knight
D. E. C. Robertson	W. H. Shrigley
G. H. S. Weir	D. J. Bull
S. G. Caston	A. H. Crowley
E. M. Douglas	W. Foster
J. W. H. Jones	H. M. Norman
C. W. Pound	F. C. Tomlyn
W. J. Watson	

SOCIETY OF APOTHECARIES OF LONDON
July, 1928
PRE-MEDICAL AND PRIMARY EXAMINATION
Anatomy
J. W. V. Sheldon
B.D.S. EXAMINATION
FINAL
July, 1928
F. T. Krusin
UNIVERSITY OF LONDON
M.D. EXAMINATION
July, 1928
BRANCH V (State Medicine)
W. G. Booth.
SECOND EXAMINATION FOR MEDICAL DEGREES
PART II
July, 1928

K. Bliden-Steele	E. T. Blacklee
M. Kosloff	G. F. Lashmore
R. A. Q. Lay	C. H. Rogerson
J. Barlow Schofield	I. Schulman

Change of Address.

Ernest D. Bascombe, Culverley Cottage, Brockenhurst, Hants.

A. V. Clemmey, c/o Director Medical and Sanitary Services, Dar-es-Salaam, Tanganyika Territory, B.E.A.

Dr. R. Felton, 1044, Collinson Street, Victoria, B.C., Canada.

S. C. H. Lane, M.R.C.S., "Redfern," Ranelagh Road, Deal.

Appointments.

Norman Burgess, M.A., M.B., M.R.C.P., Appointed Clinical Assistant, Skin Department, Bristol General Hospital.

A. V. Clemmey, appointed M.O. in the East African Medical Service.

Papers by Guy's Men.

V. E. Lloyd, M.B. The Effect of Acetylarsan in Early Syphilis, *Lancet*, 1928, i, 1320.

G. F. Gibberd, F.R.C.S. Induction of Labour with Animal Bladders containing Glycerine, *Lancet*, 1928, i, 1325.

W. M. Mollison, M.Ch. Treatment of Acute and Chronic Laryngitis, *Lancet*, 1928, ii, 135.

Birth.

GREENWAY—On July 15th, 1928, at a Nursing Home in Exeter, to Beryl, wife of Captain C. W. Greenway, R.A.M.C.—a son.

Marriages.

WILLIAMS—WREN—At All Souls, Langham Place, W., on Wednesday, July 4th, 1928, by the Rev. Leigh A. Fisher, assisted by the Rector, George Valentine Lloyd Williams, L.D.S.Eng., 62, Oxford Street, Wellingborough, and Doreen Beatrice, only daughter of Mr. and Mrs. Charles Wren, The Sycamores, Harpenden, Herts.

LANE-ROBERTS — MILES-SHARP — On Tuesday, June 10th, 1928, Cedric Lane-Roberts, M.S., F.R.C.S., of 64, Harley Street, and 17, Sussex Place, to Nell Miles-Sharp.

EDS. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

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PASSIM

THAT great annual institution, the Summer Holiday, has started in earnest. The roads seem crowded with cars, and the railways with small children and spades, while even the most conscientious medical out-patients are asking for a month's medicine. Bermondsey is starting to "hop." Enormous upheavals are becoming evident in most Borough homes as their inmates migrate to more salubrious fields, where they can, for a whole blessed month, pick hops to their hearts' content, and their pockets' profit. For every Bermondseyite over the age of twelve can pluck his hop with the best and place it to the credit of the family. It is little to be wondered at then, that the editorial mind should become irritable and the editorial body should fidget at the adventurous stir going on all around, while "Passims" have still to be written, proofs corrected, copy besought, and kicks and rebuffs stoically borne.

Little wonder, too, that the prevailing stir should have included the editorial office in its sweep. As a result, part of the office has been hurriedly transported to the Continent, where, however, the thorny side of the editorial path becomes less obvious under the calming influence of sun, sea and blue sky. There may be noise and light and colour, and yet in spite of these, or possibly because of their cunning arrangement, the effect of, say, a Continental seaside resort is to exert a soporific action on all the higher cervical centres, numbing one into a delicious stupor.

The complete holiday demands two things; one is change of action and outlook, the other is absolute rest of all the finer faculties. So, for once in this column, no axes will be ground, no prayers raised, no beneficence begged, and no exhortations made.

An atmosphere of calm, in which hurry has no place and into which time does not enter, will be urged upon readers, particularly upon those about to start on their summer holidays.

Pursuing this mission of peace, we would like to bring the holiday spirit into Guy's itself. We would like to see the Park ablaze with colour. A bathing-pool in the space immediately in front of the Nurses' Home, while the Baby Ward would serve excellently as a Casino. A dancing floor on the School roof, and a "foire de saison" bordering the Colonnade would go far to complete a picture made perfect by a vision of nurses and house-officers in Lidoesque garments sitting about in Deauvillian attitudes. The saving of time and expense and the improvement in health and morale which the realisation of this vision would bring about is obvious. So cold and unhelpful, however, is the attitude of the powers that be towards any such revolutionary project that we feel that many years wil pass by and many generations come and go befor baccarat can be played over the Baby War or before even goldfish swim in the Park.

Anyhow, life is very warm and pleasant, and for those who still remain there is always the theatre balcony or the cool hold of the S.S. Shovel.

JUST as we were about to indulge in our annual grouse regarding the exceeding dullness of vacation time there comes a minor earthquake. We refer to the sudden changes at either extremity of the nursing uniform, regarding which opinion in the Home appears to be about equally divided. When femininity once decides to adopt

a uniform it seems content to be as conservative and unpractical as it is liberal and sensible in its ordinary garb, and any changes or concessions to the needs of the moment are indeed hard won. Mercifully our nurses have never suffered the flounced sleeves and streaming caps of other hospitals, but to enclose the cervical spine, and especially a short one, in a stiff truncated cone has always seemed to us a form of torture that well merited the ward maids' prompt dismissal at the sight of a job of work to suspension by the back stud alone. If then we regard Etonian neckwear as the very 'Summit' of reform, we are less decided as to rival merits of the old and new in hosiery. Liberation from the bonds of black cashmere has meant a rush to a range of shades in grey before which we have no alternative other than to suspend judgment. We suspect, however, that before long the present slatey hue will be so tinged with mauve to match the stripe of the dress that there will remain no suggestion of the sponge bag, and that moreover we shall soon grow used to the innovation which is really all that matters.

ASTRONOMY and Medicine would appear to be strange companions and yet to combine well in the activities of Mr. R. L. Waterfield, now home from Baltimore. We hear that he returns shortly to resume his research on the inner workings of those bodies, both heavenly and human, which are fortunate enough to engage his attention.

PAT and Sam is now receiving that thorough attention at the hands of the cleaners and decorators which the character of the cases usually warded there renders highly necessary, and in consequence the 'take-in' A.H.S. loses somewhat in importance but gains in leisure. For a long time the authorities have threatened to lift the roof of this ancient and attic-like concern, and if they are not careful the Niggers will do it for them one of these Christmas days.

WE cannot leave unmentioned the present verdant aspect of the park, What magic art has exorcised that evil spirit of premature baldness which invariably took possession during the droughts of former years we are unable to say, but the fact remains, unparalleled in hospital history, that there is grass of quality in every part. The erection of an awning for the inmates of the baby ward provoked the weather to several heavy showers, but now all is apparently forgiven and once more the awning provides shade and not precarious shelter.

Sleep and some of its Disorders in Childhood.

A Clinical Lecture by Dr. Cameron.

GENTLEMEN,—I propose to divide what I have to say into three parts, dealing briefly in turn with the sleep of the newly-born, of the infant, and of the older child.

The newly-born.—The newly-born sleeps or should sleep almost the whole time, rousing only to take food and for being washed and dressed. Of restlessness and insomnia in the newly-born, I have nothing to say that is not perhaps better said under the heading of the infant, but states of undue somnolence or of partial coma are common and require some special consideration. The premature child is often especially difficult to arouse. It lies profoundly asleep, curled up in that attitude of flexion, which it occupied in utero. Many feeble infants, similarly, lie inert and somnolent. Such somnolence may be shortlived and of no great significance or it may be persistent and of grave import.

It is indeed true of the newly-born that it is a matter of very great difficulty to assess the importance of symptoms. The immaturity and functional incapacity of all its organs are so great that symptoms, which at other ages would invariably be rich in significance, occur with extreme readiness and are of relatively little importance. Thus, for example, the functional immaturity of the liver is so great that icterus occurs in more than half of all infants and in the premature infant it occurs almost invariably. Yet so little does this jaundice imply any disease of the liver, that it is common to speak of physiological jaundice. Again, examination of the urine of the newly-born almost always shows the presence of albumen and often of renal casts or of red-blood corpuscles and again we speak of physiological albuminuria. Or again, it is a common thing for a newly-born infant,

in every way thriving, to pass from time to time, violently and explosively, a green slimy stool, and this although the preceding stool and the next stool following, may be of good colour and consistency. The occasional passage of these mis-coloured stools, much as they are deplored by an anxious mother or nurse, does not justify us in assuming the presence of an infective enteritis, or even in concluding that the nature or amount of the food has been to blame. Such stools are due, probably, to a physiological hyperæmia and neuro-muscular hyper activity,—a too active response to the presence and stimulus of the intestinal contents in a bowel which till recently was empty, anæmic, and inactive.

In the newly-born, the interpretation of symptoms is very difficult. We are apt to come suddenly face to face with unexpected death or with the danger of death and we must remember how high the neonatal death rate is. At no time of life is there a greater danger of death than at its first beginnings. Of 1,000 live births, some 40 per cent. do not survive the first month, a total which supplies more than half of the infantile mortality for the first year of life. One infant out of twenty dies in the first month of life. How then is one to assess the importance of undue somnolence as a symptom and how is one to estimate the vitality and the well-being of the too somnolent infant. We must remember that all the activities of the infant at birth are controlled by the spinal cord and especially by the medulla oblongata. The cerebrum has not yet begun to function and although all the cortical cells are present there is no medullation of their axis cylinders. The pyramidal tracts are not yet functionally developed. But the medulla is active from the first because it presides over those functions, which are vital for the infant's existence—respiration, circulation, suction, etc. If together with undue somnolence, we find disturbance of respiratory rhythm, with a tendency to apnœic pauses, if there is undue cyanosis or pallor, or if there is evidence of atelectasis with rapid, unduly shallow breathing there is great danger. In the same way if there is any evidence of circulatory failure, with syncopal attacks, with failure or undue rapidity of pulse, if the fontanella is unduly sunken or unduly full, all these are signs of danger.

But perhaps for practical purposes the most useful indications of the vitality and well-being of the child are provided firstly by its capacity to maintain a comparatively stable body temperature, and secondly by its capacity to suck strongly and effectively. A persistently subnormal temperature, a temperature which fluctuates over a wide area or pyrexia, and a failure to show the normal suction reflex are indications that the somnolence may be due to intracranial damage or to some obscure toxic or infective disorder.

The Infant.—In infancy, states of unrest and resolute refusal of sleep are of course, very common. The nervous or neurotic infant is easy to recognise at a glance. The normal infant sleeps profoundly. Ordinary sounds and movements have no power to awaken him and when he does waken, consciousness returns slowly. With much stretching and yawning, the expression of interest in or observation of his surroundings gradually appears. The nervous infant, disturbed by the slightest sound, is wide awake in an instant. With a start of his whole body, the fretful expression at once flows back into his face and he falls immediately to loud and emotional crying. In general, the nervous infant is thin and meagre. The muscle tone is always increased, the hands are clenched. Often there is some episthotonos, the outlines of the recti abdominales can be seen from far off. The tendon reflexes are exaggerated, even for infancy when they are always brisk. A high proportion of unduly nervous infants are furnished with a mop of dark and soft hair. These tense, rigid, active craning infants contrast in their appearance with the plump, rounded, relaxed, bald infants who sleep so soundly and so well.

But in this life it is not only those infants who inherit a peculiar instability of their nervous system, who are apt to suffer and to cause insomnia in a household. The most normal infant in the world is apt to lose its power to sleep if wrongly handled and overstimulated. Hospital and institutional babies as a whole sleep well because they are not thus overstimulated. They are washed and dressed and cared for with great kindness and with great precision by a succession of competent nurses. But they do not live in the light of any one woman's eye, with the constant play of her voice, her face, eyes and touch upon them. The calm, quiet, self-confident mother or nurse, who is not unduly distressed by the cry, seldom encounters great or prolonged difficulties. The agitated, apprehensive mother, whose own emotions are stirred by the cry, often finds the child more and more restless, and more and more dominating the situation by the cry. Often a woman, who would otherwise be completely successful, is upset by accidental surroundings.

The neighbours knocking on the walls in protest is a common complaint. Or again, mothers have expressed wonder to me that the infant should sleep well by day when the father is at work and cry all night when he is trying to sleep, yet when the father goes on the night shift and tries to sleep a little by day, the infant's habits undergo a corresponding change. Such an experience can have only one explanation, that the infant's sleep or the infant's failure to sleep depends more than anything else upon the mother's state of mind. No infant will find rest in the arms of a woman, who is herself in a state of agitation. The best place for a baby to be carried, I have no doubt, is on the mother's back, gipsy fashion, firmly bound up against a nice warm part of her body, which plays no part in the expresson of her emotions, while her hands and her attention are free to be occupied and absorbed in other affairs.

The insomnia of an infant, with its restless violent movement and loud crying, is a serious matter, because it is very apt to be accompanied by gastro-intestinal disturbances secondary to the emotional overplay, and by a loss or a standstill in weight. Of the food consumed by an infant, 70 per cent. approximately is devoted to the replacement of the energy lost by radiation and in other ways from the body, 10 per cent. is lost in the excretion, 10 per cent. is devoted to the energy expended in muscular movement, and 10 per cent. is available for growth. The wakeful, crying infant in ceaseless violent movement, expends a vastly greater energy than the infant asleep and still, within an air-space which is not disturbed by the admission of cold air. The restless infant is thus always a ravenously hungry infant. All the calculations of the number of calories required by infants at various ages are based upon the assumption that the infant sleeps soundly and well. The heat loss of a very restless infant has been shown by calorimetric studies to be twice or even three times that of the normal, yet the restless infant, rendered hungry and thirsty by his over-activity, has at the same time a diminished tolerance for food and a diminished power of patient persistent suction, because of the exhaustion which follows the storm.

It is not possible to prescribe amounts sufficient to cover the needs for food so long as the unrest continues. It is necessary to induce sleep and rest and to lower the demands for food till they fall below the limits of tolerance for food. Such advice as we give the mother and our whole manner of handling the situation must be directed with a double object, to calm the baby and to give back to the mother that self-confidence in her own power to control, which is necessary if she is to regain control at all.

(1) As in Bethlem, so in the nursery, the soothing effect of prolonged immersion in hot water is apparent—the continuous hot bath. The hot bath may be given to the infant twice a day and prolonged for 10 minutes or even more. It is well to let the baby lie on a soft towel swung hammock-like under the water. There are infants who hate these baths and fall to screaming at any attempt to immerse them. Here again it is generally the handling that is at fault. The calm confident handling that is so necessary has been replaced by a timid, agitated grasp. Sometimes it helps to wrap the newly-born in a towel before immersion. It is easier to grasp so for a mother, not yet expert, and the nervous baby afraid of his bath will often then tolerate it. As an alternative a hot pack, up to the armpits and leaving the arms free, may be given for 20 minutes before bedtime, or in the watches of some particularly restless night.

(2) As in Bethlem so in the nursery, there is need for a strait waistcoat. The swaddling clothes of all primitive folk are the infantile strait waistcoat. Supported by the steady enveloping pressure of a shawl, which prevents the separate writhing, kicking movements of arms and legs, the child will often sleep.

(3) The restless infant should be carried not in arms, but on a pillow. The pillow universally used on the continent has, I think, a purpose. It seems to insulate the mother's nervous system from the baby's. There is not then the same interplay between the mother's arms and the infant's restless, wriggling little body.

(4) By these devices something may be achieved and in conjunction with suitable doses of chloral hydrate there are few conditions in which we can intervene to help an intolerable situation more successfully. 1 gr. of chloral hydrate given 5 times a day, 10 minutes before each of 5 feeds, is a safe prescription and under careful observation it may often usefully be doubled. Bromide gr. 1 for each grain of chloral may act as an adjuvent. Its effect is clearly much slower.

The Child.—The mother's part is here still all important. Older children are quick to absorb ideas concerning themselves. But in general, they see themselves only in their mother's eyes. What is said about them, what is thought of them and above all what is feared for them, that they are very apt to become.

The mother of the sleepless child is apt to be constantly on tenderhooks, hoping that he is asleep, fearful that he is awake. Often the mistake is made of urging the child to go to sleep, of reproving him for not being asleep, as though any one of us could go to sleep by an effort of will and as though insomnia were not the invariable result of the persistent attempt to woo sleep by a determined effort. Sleep comes by a sort of auto-suggestion. It is interesting to observe how often children will only sleep clasping a favourite doll, or holding some gruesome fragment of a rag, and any attempt to dislodge this, their mascot is followed by, a complete absence of sleep. We may make use of these natural tendencies of the child. If the direct appeal to the child to go to sleep when he is told is always fruitless and often does harm, the loudly expressed satisfaction at any improvement, the suggestion that gradually the wakeful one is becoming a notable sleeper are correspondingly helpful. Hypnotics, chloral, bromide, luminal and so forth cannot be used to combat a year-long refusal of sleep, but they can be of great use in inaugurating a new regime, while their first effect is perpetuated and kept up by an altered management which removes the child's forebodings about sleep and restores confidence.

It is characteristic of the nervous child especially to be a bad sleeper and among nervous children we recognise, as most of you who have worked with me will know, a certain group characterised by pallor, prostration, yawning and sighing, restlessness and instability and a tendency to attacks of vomiting, or of nausea or giddiness, marked often by the tell-tale smell of acetone in the breath and at times in the urine. Ketonæmia is always worse at night, because the carbohydrate reserves are then most depleted and the child is forced to fall back upon its reserve fuel,its stored body fat. In these states of disturbed metabolisn at night, sleep is often restless, and night terrors and sleep walking are unduly common. A large intake of glucose or other sugar at bed times is often productive of much sounder sleep undisturbed by frightening visions. I suspect that a glass of port has often been curative in the past.

Time will not allow me to discuss further pathological states associated with sleeplessness or abnormal sleep—for instances, that curious reversal of sleep rhythm in encephalitis lethargica, sometimes for many years afterwards when always at nightfall there settles down upon the child a curious active busy delirium, while sleep, which begins in the early morning may be prolonged late into the day ; or again the importance of sleep in croup—laryngitis stridulosa—and many cases of asthma in childhood, where with the approach of sleep, the spasm visibily yields.

A Temper Trying Week.

(*A cruise from Bosham to Burnham in Albatross. All navigational details omitted.*)

THE Albatross had languished at Bosham, on Chichester Harbour, since October last, when she was laid up there after the cruise to the West Coast of France. Only stern necessity compelled us to leave her there and we much regretted it later, because whatever the attitude of the local pirates—I mean boatmen, sorry—is to yachts who habitually live there, their behaviour to visiting craft is characterised by a spirit of ca' canny that would do credit to the most fanatical of trade unions.

Thus it was that we were quite unable to give the ship her spring painting or the renewal of certain shrouds and stays for which she was due.

We were therefore anxious to get her away and at Easter Oriel, Palmer and myself made an effort to get her round, but were frustrated by strong Easterly winds and high seas which quite negatived any beating up Channel in an unheated boat.

The second attempt was made in July, when with Berkley as mate and Bunyan and Brotherton as foremast hands we again set forth on the venture. On this trip Berkley was making a very welcome return to Albatross from which he has been absent for two years.

Things did not go too well in Bosham. First of all, on the day we got down there,—Sunday, 15th July—we couldn't find our dinghy and then when we found her she had been out of the water so long that she nearly sank under us and our bags on the way to the ship. Only the most desperate rowing saved us.

Secondly, on the Monday we thought that it would be a good idea to get up our anchors and

"The Probationers Nightmare."

tie up to a bouy belonging to the steam yacht owned by Lord Louis Mountbatten. We thought that this would save us time when the tide turned in our favour in the evening and Berkley arrived. This we did and then went ashore for the rest of our stores. To our horror, on our arrival back at the water, we saw that this steam yacht had returned and was looking very haughty with the white ensign of the Royal Yacht Squadron flying. The Albatross had been ejected from the buoy and was lying astern of the yacht looking like a small dinghy. We rowed off and addressed our apologies to various majestic figures on the bridge, who accepted it very sportingly. They cast us off and having drifted to a respectful distance we dropped anchor.

Berkley arrived at 4.30 and we at once set sail for the open sea. Our troubles were by no means at an end, for a bend in the narrow channel necessitated a gybe, the end of the mainsheet was allowed to slip through its block and we found ourselves in the uncomfortable position of having no control over the boom and other gybes imminent. As a bad 'all standing' gybe in the fresh wind then blowing would probably have done serious damage I had to crawl out along the boom and re-reve the sheet, a version of climbing the greasy pole that was not at all appreciated.

Scarcely had this been done that we were snared into what looked like the channel but wasn't, and in a few moments we were firmly aground. However, the tide soon turned and we floated off in about half an hour.

We got into the Channel at 6.50 and bid a thankful goodbye to Bosham Bar (not bar) and set a course on the Ower's Lightship off Selsea Bill, about 12 miles away. Very soon the real Albatross bad luck commenced and the wind began to go round till before long it had changed from a following wind to a dead head wind and the best we could do was to point in the direction of France.

At 9 p.m. we set the watches for the night, Brotherton and myself taking the first from 9 p.m. till midnight. At 11 p.m. the tide turned against us and in six hours carried us about fourteen miles down Channel in the direction of St. Catherine's Point.

Tuesday.

At 2 a.m. great misfortune overtook us, for Brotherton, turning out to do his watch, was suddenly smitten with sea sickness. This particular brand of sea sickness is very common on Albatross, the sudden change from the horizontal position in the cabin to the vertical in a reeling cockpit being the undoing of many. From this moment he was completely *hors de combat.*

At 8 a.m. the prospect was peculiarly cheerless. The land was quite out of sight, the wind was due east, Bunyan was feeling far from well and a good sea was running. We went about and stood in for our tack towards the land. At 11 a.m. we sighted the land and identified the position as off Bognor. A short calculation brought to light the fact that we had sailed about thirty-five miles and made thirteen in the right direction.

At midday the wind suddenly fell light and we found ourselves rapidly going down the coast on the tide, which was again foul. Shortly, to our distaste, we found that we were being drawn into the race which rushes past Selsea Bill and were being carried into the breakers on the Mixon rocks. We hurriedly prepared to anchor and anchored about two hundred yards off them. For two hours we lay at anchor, rolling and pitching as only a small yacht at anchor in a choppy sea can.

"The Albatross."

Two hours later the breeze freshened and enabled us to beat the tide—which was running like a mill race—and we got away. We made for Littlehampton, some six or seven miles away, as it seemed imperative to land Brotherton, who was looking very bad, but the wind again played us false and we turned circles and drifted along with the tide.

At about 9 p.m. it became obvious that we should not make Littlehampton and a night in an open roadstead was not to be contemplated, so Berkley, completely untrained and with the

soft hands of hospital life, got into the dinghy and pulled the four miles into Littlehampton in search of a motor boat. A very stout feat.

After some time a motor boat appeared from seaward and offered us a tow. We gratefully accepted (after cautiously enquiring the price and finding we had insulted the owner) and arrived in the harbour in time to find Berkley driving a motor boat man into his boat with the intention of rescuing us. We landed Brotherton and having cooked a meal, turned in.

Wednesday.

Had five bobs' worth of tow out, as Littlehampton is a most ferocious place and power is almost essential except with very favourable conditions of wind and tide.

This day was remarkable for the fact that the so-called prevailing wind—south-westerly—actually blew for eight whole hours. We made splendid speed past Brighton and Newhaven and arrived off Beachy Head at 6.30 p.m. Here disaster nearly overtook us, because in the big seas off the point the starboard runner (which was taking all the strain of the mast) elected to break with a report like a pistol shot. The mast gave three terrific whips and for a moment we all thought it would go into the drink, but it didn't. We hurriedly hove-to on the port tack and made as good a repair as possible. A very narrow shave.

Half an hour later and we had a taste of one of the other perils of the sea—fire. One of the Primus stoves managed to eject a mass of paraffin over the cooking locker and the whole shoot caught fire. We had a merry minute or two with it, and at the end everything was black with soot and a certain amount of damage had been done. The big sea running did not make matters easier.

Eastbourne, which we passed at about 8.30 was gaily lit and had a light cruiser anchored close inshore.

The wind now considered that it had blown long enough for its purpose and hurriedly went round to the north, so we had to close haul to lay the course on Dungeness. Set the watches—two hours on and four off.

At midnight, off Hastings, we came upon a fleet of small drifters lying to their nets, and one of these on seeing our lights lit a flare and signalled wildly with it. We hadn't the vaguest idea what it meant, nor could we make much of the vigorous nautical language which came in an unceasing stream from the same direction. Finally Berkley distinguished the words: "Hard up the helm" so we hard-uped and passed astern of them. It rapidly transpired that we were supposed to alter course according to the way they waved the flare, but as they had waved it in a strongly circular manner it wouldn't have helped even if we had known it. However, it would not have mattered, because as we passed in the inky blackness the fishermen said: "We wouldn't have bothered if we'd known ye was sech a little yacht."

Later we again altered course to avoid a light which looked as if it might belong to another fishing smack, only to find that it was a lantern having a voyage on a barrel for some strange reason.

Thursday.

At 4.30 a.m. we were off Dungeness and the wind failed completely. Our high hopes of making Ramsgate that day dropped to nothing. Bunyan had to be put ashore in time to get into camp at Folkestone that night, so we decided to make for Folkestone—only ten miles away. At 2 p.m. we were still off Dungeness and had relapsed into a morose silence owing to the monotony of vain repetition. At 2 p.m. a faint air sprang up and we crawled over the sea. A large number of fine ships passed close to us and the day was sunny, but we were in no mood to enjoy it. We made extremely poor progress owing to the weed, barnacles and heraldic sea monsters on our bottom.

At 7 p.m. we were three miles off Folkestone and the tide was commencing to turn against us, so when a motor boat, crowded with people having a shilling-sicker round the bay, offered us a tow for twelve shillings and sixpence we were forced to accept it. They towed us past H.M.S. Marlborough and we dropped anchor in the outer harbour—a foul spot, with smells and cross-Channel steamers. The inner harbour(an even fouler spot) dries out at low tide and so was useless. We put Bunyan ashore and turned in for the night.

Friday.

Berkley and I both went ashore and provisioned and watered ship. The water tasted like the smells and probably contained many nutritious Typhoid bacilli.

Later we got under weigh for Dover and had a good sail as the wind was blowing its bit for the day. We were becalmed off the South Foreland and jogged slowly up the Downs, the tide doing most of the work. We decided to make Ramsgate and spend the night there. The wind at once commenced to blow from the south west, in the hopes, I suppose, of fooling us into trying to cross the Thames

Estuary, where it would have deserted us amongst the banks.

However, we weren't having any, made Ramsgate in style and tied up alongside another yacht. Paid half a crown port dues and received an imposing list of what we might not do and what it would cost us if caught. We estimate that we owe Ramsgate forty-seven pounds ten shillings in fines.

Went ashore after dinner and had a wash and some liquid refreshment. We returned to the ship and were disturbed by the arrival of the owners of the yacht alongside us—slightly pickled. With all a sailor's skill they negotiated the steep and slippery ladder down the dock and then tried to persuade two female acquaintances to do likewise. The latter, protesting that "They weren't a bit shy," nevertheless baulked at this, and promising to come early next day, departed.

Saturday.

Up at 6 a.m. to catch the last of the ebb round the North Foreland. Our friends of the next yacht staggered out, looking like death warmed up, to do the same. To our great surprise their female friends appeared, true to their word, and by daylight essayed the ladder. So pleasant were the voices of these nineteen-twenty-eight syrens that our hardy mariners completely missed their tide.

We ourselves got clear by 7.30 a.m., but off Broadstairs the wind failed completely and the tide later turned against us. Quite helpless we were swept right down to the North Goodwin Lightship and on the other tack down to the Gull Lightship.

The obvious thing to do was to anchor, as did a Thames barge, but we dare not do so, because the water was fairly deep and with only two of us we should have failed to get the anchor up and lost it and our chain.

By 2 p.m., when the tide turned in our favour, we were in a worse position than if we had stayed in Ramsgate. (Moral: Syrens have their uses sometimes.) However, we flapped our way past the North Foreland, meeting 'The Crested Eagle' etc., from London Bridge.

We were completely becalmed off Margate for two or three hours and not till seven o'clock did a breeze spring up. It was dead astern and very favourable for our passage across the Thames Estuary, so we clapped on the spinnaker and made excellent progress till we came to the Middle Sunk Bank at 9.30 p.m. My calculations led us to believe that we should have an hour of tide on the bank (which has only three or four feet on it at low water) so when the lead showed six feet we were not at all dismayed but carried on in an inspired and utterly foolish way. Unfortunately my calculations were a fraction out and suddenly the water shoaled to three-quarters of a fathom and bump, we touched, surged forward on a wave, bumped again and stuck.

That was that. We got the canvas off her and took stock of the situation. About a mile away a procession of steamers was passing up and down the Barrow Deep. One thing was certain and that was if the wind freshened we should be pounded to bits on the bank. It showed every indication of doing so and darkness was falling rapidly, so things looked ugly. We wondered if we could attract the attention of the steamers should the need arise and decided that we couldn't, so we just laid out the kedge anchor and retired to the cabin to keep warm. In an hour's time the tide began to rise and we had a dreadful hour of it. Every now and again a wave broke over the yacht and she began to bump on the sand. Only her exceptionally strong build enabled her to withstand the treatment she got as she rose on a wave and then dropped in the trough on to the bottom. Finally at midnight she did her last bump and having waited half an hour we put up the lights, got the anchor and sailed off on our course.

No sooner were we off than the wind began to drop and we were soon turning circles. During this calm the lights of a large steamer appeared heading straight for us and, as usual, expecting us to get out of her way. So we should have, because steam does *not* give way to sail, at any rate small sail, but being becalmed we couldn't. Finally we could stand it no longer, we were obviously going to be run down, so Berkley dived for our fog bell and rung it violently. The steamer answered with a stroke of the bell on his foc'stle and altering course passed about twenty yards off—quite near enough to be pleasant.

We made rotten progress throughout the night and we were both on watch all the time as the fierce tide threatened to carry us on to various banks and while one was at the helm the other kept checking our position on the chart by the lights visible. We were both dropping with want of sleep but the best we could do was Berkley three hours in forty and myself two hours in the same time. Till eleven next morning (Sunday) we only just held our own and then at last we made headway and made Burnham at 4.30 p.m.

Monday.

Made the six miles to Fambridge in five hours—entirely on the tide. Dead calm.

G.N.W.

The Wager.

YOUNG Smith was very keen on the shingles-chickenpox question. Old Dr. Langsam, who had taken him on as his assistant within a few weeks of his qualifying, pooh-poohed the idea of a genuine relationship. "Coincidence!" he growled when Tom quoted authorities and certain cases of his own. Tom determined to convince him and the weak spot for attack suddenly struck him. The old doctor kept a couple of racing horses and dearly loved a gamble, whether it was backing a horse or making a friendly bet.

"You know, sir," said Tom, "that you may get shingles due to a course of arsenic, and if you have young children in the house, they are apt to get chickenpox from their parent's shingles. One might even create an epidemic in that way."

"Bunkum!" snorted the elder man.

"Will you bet on it?" asked Tom eagerly.

"Bet on what?" growled the other.

"That I don't start a chickenpox epidemic in one of the schools."

"You're mad!"

"Will you have an even five pounds on it?"

"Certainly, if you're fool enough to throw your money away!"

"Done!" cried the younger man and as his chief left the room with a pitying glance at a man who could risk his money on such an absurdity, Tom sat down to his desk and turned to his notebook. The following extracts caught his eye:—

Dr. Railton stated that he had treated 9 children for chorea with Fowler's solution and 3 of these exhibited a zoster eruption. Twice at least, I have seen it (shingles) arise during a course of treatment with Liq. Arsenicalis in doses of 4 minims a day.

HALDIN DAVIS.

Arsenic causes herpes (zoster) by a direct action on the posterior spinal ganglion.

E. S. REYNOLDS.

It is quite common to find after a case of herpes zoster, all children in the house develop typical chickenpox, in from 12 to 14 days.

CRANSTON LOW.

In the last 18 months, 3 out of 7 appearances of herpes zoster in my wards have been followed by chickenpox otherwise quite unexplained.

CLAUDE B. KER.

The fluid from the vesicles of a typical zoster eruption when inoculated into the skin of very young children, produced a local or generalized eruption indistinguishable from that of chickenpox.

KARL KUNDRATITZ.

"Generalised zoster" and "Aberrant Vesicles" of Herpes Zoster must be conceived as "Varicella."

J. VON BOKAY.

The relationship of herpes zoster to varicella has been productive of much literature, chiefly in France and England, also in America Scotland, Africa, Poland, Norway, Hungary, Germany, Austria, Switzerland, Holland and Spain

BERNARD LIPSCHUTZ.

The knowledge may be of some use in controlling epidemics of Varicella.

NORMAN WALKER

After a minute's close scrutiny, he shut the book determinedly saying to himself, "That means arsenic tonics for the future!"

But luck was strangely with him that afternoon. Among his patients was little Bessie Brown, suffering from chorea. She had been taking arsenic for several weeks and her mother led her into the surgery with the words, "Doctor! Bessie's got a nasty rash on her side, do you mind looking at it?"

Tom's pulse seemed to bound as he told the woman to show him the rash.

A typical intercostal herpes zoster!

"And doctor, Bessie's birthday is on Saturday, so I've asked a few of her little friends to tea. I suppose there's no harm in that?" Tom's head was in a whirl. A saying about the devil looking after his own and some text about all things working together for good seemed to be mixed up in his brain and he couldn't tell which was most applicable to the situation. However, he didn't hesitate. He was out to win that bet, and he promptly said, "No harm at all, Mrs. Brown!" After making up a box of powder for Bessie's shingles, he said "I hope you'll have a nice time on Saturday, Bessie," and as the mother and child left the surgery by one door, Dr. Langsam came in at the other, "By the way, sir," remarked Tom, "that epidemic is due some time next month."

" Thanks for the information ! " observed the doctor drily, as he took up his midwifery bag and went out to his buggy (no car for Dr. Langsam !)

In rather less than three weeks a message came from the Brown family, " Would Dr. Smith call and see Winnie, Bessie's younger sister, as she seemed to have chickenpox." Tom lost no time in paying the visit and confirming Mrs. Brown's diagnosis. " I hear some of the children at the school are laid up with the same thing," said Mrs. Brown. " Any of those who came to Bessie's party ? " enquired Tom. "Perhaps you had better let me have the names of all the children who were here, Mrs. Brown." A few minutes later Tom was on his way to call at the various houses on Mrs. Brown's list and finally reached home with all the necessary data to prove his case.

Winnie's chickenpox had appeared 14 days after Bessie's shingles and all the other children had their attacks within a few days of Winnie's, too short an incubation period for them to have been infected by Winnie, but just the right interval (2 to 3 weeks) for them to have taken the infection from Bessie's shingles. Fortunately for Tom's argument, there was no other case of chickenpox to be heard of in the neighbourhood. On reaching home, Tom found that Dr. Langham had just sat down to lunch. Without a word he put this list of names and dates in front of his chief. The old doctor seemed to be studying the particulars carefully for a few minutes and then to Tom's surprise acknowledged that he had already heard about them and had himself called at several of the houses and examined the little patients, going pretty thoroughly into the question of dates, etc. " You've got me this time ! " he confessed reluctantly as he threw a five pound note across the table which his assistant caught and pocketed. " It's lucky it's only a mild disease you've been playing with ; for goodness sake don't start monkeying with scarlet fever or smallpox."

Authors' Note.

My reason for recurring at intervals to this subject is the extraordinary scepticism of so many who are well acquainted with the evidence (e.g. nearly 200 reported cases in the B.M.J. alone, during the last few years). My tale, though at first sight trivial, has nothing intrinsically impossible in it, and its contents may in this form attract attention where a more serious communication would pass unnoticed. The notebook extracts are of course all perfectly authentic, and the Editor holds a full set of references. I have managed to collect to the literature concerning this extremely interesting question.

W. P. Le FEUVRE,
Cape Town.

Nursing News.

The Nurses' Swimming Club.

ON Monday, July 30th, the Annual Nurses' Swimming Gala was held in The Home Baths. The evening was a great success, largely owing to the enthusiasm shown by the nurses.

Not for years have there been so many entries for the various races and never before so many for Lady Fripp's Cup. This increase in numbers of late, denotes a marked improvement in style, the Cup being given for style only and unless a nurse is up to standard, she may not compete.

Lady Fripp was present to give away the prizes and during the evening Miss Venetia Fripp gave a wonderful display of swimming. Her feats in the water are something to marvel at and some of her "stunts" caused great amusement among the audience.

Miss Daly from the Bath Club was kind enough to judge for us again with the help of our friend Mr. Jarman. May we take this opportunity to wish him the best of everything in his new venture ?

The prizes were very kindly given by the Matron, who, to everyone's regret, was unable to be present.

The Fancy Dress Race was a great and startling event ! The costumes one and all were excellent and we were sorry when the race had to start and the enterprising competitiors immersed themselves in the water. The group of three from the Theatres was acclaimed the best, the patient—a case of Laparotomy with many-tailed bandage and drainage tubes complete—winning the prize.

Nurse Eurich, a robust footballer, arrived at the goal first not being hampered with skirts and gowns, etc. !

The Surgeon and Sister were in demand to resuscitate the patient. When she collapsed

The Right Collar

is now—

almost as

difficult—

A Problem

for—

the Nursing Staff—

as for—

of us.

the rest—

half way across the Baths. This they did with great effect, even managing artificial respiration in the water !

The Obstacle Race where the competitors had to swim to the deep end with a plate, receive and eat five cherries and account for a corresponding number of stones was a scource of great amusement.

We feel the Beginners' Race deserves honourable mention. Three noble competitors swam the width of the Baths having learnt to swim this season.

Lady Fripp and Miss Daly both complimented the nurses on the improvement in their swimming, Breast Stroke being mentioned particularly.

Diving seems to be one weak point, but now we have a beautiful new diving board we shall hope for excellent results.

Lady Fripp's Cup.—1st, Nurse Connelly, 32½ ; 2nd, Nurse Eurich, 32 ; 3rd, Nurse Pitt, 30½.

Flat Race.—1st, Nurse Smyth ; 2nd, Nurse Connelly.

Umbrella.—1st, Nurse Eurich ; 2nd, Nurse Smyth.

Beginners'.—1st, Nurse Coles ; 2nd, Nurse Knowles ; 3rd, Nurse L. Jones.

Fancy Dress.—1st, Nurse Eurich.

Best Fancy Dress.—Nurse Connelly.

Obstavle Race.—Nurse Pridie ; 2nd, Nurse Smyth.

Plunge.—1st, Nurse Winsom ; 2nd, Nurse Eurich.

Diving for plates.—Nurse Eurich.

Sport.

Cricket Club.

Guy's *v.* Old Charlton.

PLAYED at Honor Oak Park on Saturday, July 14th, and resulted in a win for Old Charlton by 3 wickets. For Guy's, Outfin batted well at a critical period, as also did Head (69) for Old Charlton. It must be mentioned that the Hospital fielded a weak side, no less than five of the regular team being absent.

Scores—Guy's, 143 ; Old Charlton, 168 for 7.

Guy's

S. R. Peatfield, b. Martin	11
T. P. Witherow, b. Martin	14
R. J. Eustace, b. Shrimpton	4
W. P. Roe, b. Martin	1
D. J. Rees, c. Owen, b. Martin	0
E. V. B. Widdowson, b. Baxandale	21
R. M. Outfin, st. Cruickshank, b. Leach	51
W. D. G. Jones, b. Leach	9
J. P. O'Shea, b. Head	24
G. Barwell, b. Head	1
S. M. Whitteridge, not out	0
Extras	7
Total	143

Bowling—O'Shea 2 for 56, Whitteridge 1 for 23, Rees 1 for 21, Jones 2 for 19, Eustace 1 for 2.

Guy's *v.* Herts Wanderers.

THIS match was played at Rickmansworth on July 11th, and resulted in a win for Herts Wanderers by 19 runs.

Our team was considerably weakened by the absence of Garland, Durr, O'Shea, Cameron and Lewis, but in spite of this we were able to put up a good fight.

Our opponents batted first and scored 182

Guy's replied with a total of 163, Whitteridge (24) and Hogbin (32 not out) making a valuable last wicket stand. At one time it seemed as if these two batsmen would pull off the game for the Hospital.

Outfin, who kept wicket in place of Garland, played a very good game.

Scores—Guy's, 163 ; Herts Wanderers, 182.

Guy's

T. P. Witherow, c. Mole, b. Breton	1
S. R. Peatfield, b. Cluterbuck	22
R. J. Eustace, c. Breton, b. Cluterbuck	11
F. H. B. Spence, b. Cluterbuck	0
D. J. Rees, b. Cluterbuck	17
E. V. B. Widdowson, b. Simpson	25
R. N. Hines, b. Cluterbuck	0
R. M. Outfin, c. Park, b. Breton	14
R. A. P. Hogbin, not out	32
W. D. G. Jones, b. Simpson	5
S. M. Whitteridge, c. Symons, b. Cluterbuck	24
Extras	12
Total	163

Bowling—Rees 2 for 49, Whitteridge 2 for 40, Hogbin 2 for 36, Witherow 1 for 37, Eustace 1 for 0, Hines 1 for 14.

Guy's *v.* Three Counties.

THIS match was played at Arlesey on Saturday 21st July, and resulted in a win for our opponents by 4 wickets and 118 runs.

Three Counties won the toss and elected to bat, scoring a total of 271 for 6 before they declared. Saunders batted well for his century, but had to retire hurt soon afterwards.

Guy's started badly, losing four wickets for sixteen runs. However, Durr (68) and Jones (44), made a very useful stand, the former hitting hard and scoring rapidly. Guy's were all out for 153.

Scores.—Guy's 153, Three Counties 271 for 6, declared.

Guy's.

H. Cameron, b. Buckley	8
E. V. B. Widdowson, b. Buckley	1
F. H. B. Spence, run out	2
J. B. Schofield, b. Champion	0
J. Durr, c. Fuller, b. Johnson	68
W. D. G. Jones, c. Robinson, b. Ward	44
D. J. Rees, b. Johnson	0
S. M. Whitteridge, b. Johnson	0
A. R. Clarke, b. Ward	9
D. Cox, not out	10
— Williamson, l.b.w. b. Johnson	1
Extras	10
Total	153

Bowling.—Rees, 2 for 67, Durr, 2 for 81, Whitteridge, 1 for 42.

Guy's *v.* Old Whitgiftians.

THIS match was played at Honor Oak Park on Wednesday, 25th July, and resulted in a drawn game.

Scores.—Guy's, 180 for 6, Old Whitgiftians, 217 for 2 (dec.).

Guy's.

H. Cameron, b. Baker	29
C. V. B. Widdowson, ct. King, b. Baker	7
F. H. B. Spence, ct. & b. Baker	46
A. J. D. Lewis, l.b.w. b. King	13
W. D. G. Jones, b. Baker	6
J. Durr, ct. Parnaby, b. Baker	18
Dr. Bray, not out	45
B. Schofield, not out	13
Extras	3
Total	180

— Ferris, S. M. Whitteridge, R. Williamson Did not bat.

Bowling.—Whitteridge, 1 for 38, Durr, 1 for 49.

Golfing Society.

Guy's *v.* Sidcup.

PLAYED at Sidcup on Wednesday, June 13th, resulting in a win for Sidcup by one match. We have now three new members playing—Thornton, Mountain and Pilcher—and it is to be hoped that they will impart some of their enthusiasm to others of their year.

The Society has an increased number of members this year and the turn out on medal days is showing a rapid improvement on the last few years.

Result—Guy's 4½ matches, Sidcup 5½ matches.

Guy's		*Sidcup*	
K. Whitworth	0	F. H. M. Luker (3&1)	1
P. H. Lomax	½	A. H. Dabell	½
H. B. Thornton (4&3)	1	W. M. Marchant	0
I. A. Jackson	0	C. Stewart (4 & 3)	1
G. C. Cameron	0	F. Monoghan (7&6)	1
E. C. Duffett (6 & 5)	1	W. M. Wilson	0
O. Ive (2 & 1)	1	H. W. Astell	0
W. L. Mountain	0	O. T. Cousins (2&1)	1
S. H. Croot	0	F. Cammack (3 & 2)	1
M. W. Pilcher (3 & 2)	1	T. B. Gulley	0
	4½		5½

Guy's *v.* Bellingham.

PLAYED at Bellingham on Tuesday, June 19th. This was a new fixture, and it was at the invitation of their captain, Mr. Reading, that we journeyed down to Bellingham to see how golf should be played.

It was a very sad evening for Guy's, but it served to show that we have yet to cultivate that determined calmness of mind which is the happy possession of the more experienced match player.

Result— Guy's 2½ matches, Bellingham 7½ matches.

Guy's		*Bellingham*	
L. W. Cann	0	C. Prince (2 & 1)	1
K. Whitworth (2 & 1)	1	R. H. Wilson	0
H. B. Thornton	0	C. B. Rose (2 & 1)	1
O. Ive	0	G. Gray (1 up)	1
W. L. Mountain	0	P. Reading (4 & 3)	1
M. W. Pilcher	0	J. Oxenham (5 & 3)	1
S. H. Croot	0	E. A. Geddes (2 & 1)	1
J. B. Schofield (5 & 3)	1	J. C. Johnson	0
W. B. Clegg	½	E. W. Phillips	½
E. E. Evans	0	V. G. Cooke (4 & 3)	1
	2½		7½

July Monthly Medal.

ON Wednesday, July 11th, there was an extremely good attendance, perhaps not due to any enthusiasm for improvement, but more probably because the weather was delightful. The greens were very fast which doubtless accounts to a large extent for the fact that only two cards were returned.

W. L. Mountain is to be congratulated on his score of five under bogey (nett).

Result.

W. K. Mountain 42 + 41 = 83 − 13 = 70.
P. H. Lomax 40 + 50 = 90 − 9 = 81.

Alteration of Handicap.

W. L. Mountain. 13 to 10.

Guy's *v.* Hastings Medico-Dental Society.

ON Sunday, July 22nd, a match was played on the West St. Leonards Golf Course. Our hosts as usual, showed us every hospitality. Although beaten, we were not by any means routed, losing only by 9 matches to 6.

Cann and Duffett	0	Lee and Dick (6 & 5)	1
Lomax and Ive	0	Cutler and Ligat (4 & 2)	1
Langmead and Mountain (4 & 2)	1	Baird and Whitacre	0
Crook and Clarke (3 & 2) ...	1	Davie and Walker	0
Bishop and Bellamy	0	Reed and Marsh (6 & 5) ...	1
	2		3
Cann (3 & 2) ...	1	Kelt	0
Lomax (1 up) ...	1	Lee	0
Langmead ...	½	Cutter	½
Ive	½	G. H. Dick ...	½
Duffett	0	Ligat (3 & 2) ...	1
Mountain	0	R. D. Whitacre (3 & 2)	1
S. H. Croot (2 & 1)	1	Davie	0
Clarke	0	Walker (6 & 4) ...	1
Bishop	0	Marsh (2 & 1) ...	1
Bellamy	0	Reed (5 & 4) ...	1
	4		6

Hospital Appointments.

Guy's Hospital Medical School.

SCHOLARSHIPS IN ARTS AND SCIENCE.

THE following awards have been made for 1928:—

Entrance Scholarship in Arts of the value of £100—
Wilfred James Gardner, Gresham's School, Holt, Norfolk.

War Memorial Scholarship awarded in Science of the value of £200—
John Grocott, Longton High School, Stoke-on-Trent.

Confined Scholarship in Science of the value of £100—
Arnold Edgcombe Locke, Peter Symonds School, Winchester, and Preliminary Science Classes, Guy's Hospital Medical School.

Entrance Scholarship in Science of the value of £100—
Percival Ross Wheatley, St. Dunstan's College, Catford.

War Memorial Scholarship in Arts (£40 *per annum for four years*)—
No award.

Two Entrance Scholarships in Science (*each of the value of* £40 *per annum for four years*)—
Divided between:—
John Alfred Brocklebank, Wilson's Grammar School, London, S.E.
Alan Ernest Fisher, Owen's School and Birkbeck College.
Geoffrey Bocas Hunter, Ley's School, Cambridge.

Guy's Hospital Medical and Dental Schools.

JUNIOR STAFF APPOINTMENTS.

THE following appointments and Reappointments have been made by the School Council; duties to commence on October 1st, 1928.

Surgical Registrar and Tutor—
Mr. W. D. Doherty, M.Ch., reappointed for one year.
Mr. N. L. Eckhoff, F.R.C.S., reappointed for one year.
Mr. K. O. Parsons, F.R.C.S., reappointed for one year.
Mr. D. W. C. Northfield, F.R.C.S., appointed for two years.

Obstetric and Gynæcological Registrar—
Mr. G. F. Gibberd, M.S., F.R.C.S., reappointed for one year.

Medical Registrar—
Dr. A. C. Hampson, M.D., appointed for two years.

Anderson Demonstrator of Clinical Chemistry—
Dr. G. H. Oriel, M.D., appointed for two years.

Demonstrators of Anatomy—
Mr. Grant Massie, F.R.C.S. (Whole-time), reappointed for one year.
Mr. W. A. Mill, F.R.C.S. (Part-time), reappointed for one year.

Demonstrators of Physiology—
Mr. W. R. Spurrell, F.R.C.S. (Part-time), appointed for two years.
Mr. E. C. Warner, M.B., B.S., reappointed for one year.

Demonstrators of Pathology—
Mr. H. E. Harding, B.M., B.Ch. (Whole-time) re-appointed for one year.
Mr. E. H. Richards, F.R.C.S. (Part-time), appointed for two years.

Demonstrator of Chemistry—
Mr. W. M. Colles, M.Sc., reappointed for one year.

Demonstrator of Physics—
Mr. T. W. Adams, reappointed for one year.

Demonstrator of Operative Surgery—
Mr. B. G. Scholefield, M.D., appointment for two years.

Senior Dental Officer and Clinical Tutor—
Mr. H. P. Baylis, L.D.S., reappointed for one year.

Assistant Dental Bacteriologist—
Mr. A. Bulleid, L.D.S., reappointed for one year.

Registrar in the Dental Department for Children—
Mr. J. Stuart Smith, L.D.S., reappointed for one year.

Anæsthetists to the Dental School—
Mr. A. D. Marston, L.R.C.P., M.R.C.S., reappointed for one year.
Mr. E. A. Scott, L.R.C.P., M.R.C.S., reappointed for one year.

Assistant Anæsthetists to the Dental School—
*Mr. E. R. Bailey, L.R.C.P., M.R.C.S., reappointed for one year.
†Mr. E. R. Boland, M.R.C.P., reappointed for one year.
*Mr. R. C. Brock, M.B., B.S., appointed for one year.
*Mr. R. R. Macintosh, F.R.C.S., reappointed for one year.
†Mr. W. A. Mill, F.R.C.S., appointed for one year.
*Two sessions per week.
†One session per week.

Demonstrators of Dental Prosthetics—
Mr. L. P. Tuplin, L.D.S., reappointed for one year.
Mr. F. A. Walker, L.D.S., reappointed for one year.

Demonstrators of Operative Dental Surgery—
Morning attendance—
Mr. C. A. Wakeford, L.D.S., reappointed for one year.
Mr. E. N. Screech, L.D.S., reappointed for one year.
Mr. K. S. Keele, L.D.S., appointed for one year.
Mr. F. S. Warner, L.D.S., appointed for one year.
Afternoon attendance—
Mr. K. Hooper, L.D.S., reappointed for one year.
Mr. E. A. Lloyd, L.D.S., reappointed for one year.

FOURTH YEAR'S PRIZE IN DENTAL SUBJECTS. 1928.

The following award has been made:—

C. S. Henderson. Prize.

Hospital Information, etc.

Pass List.

UNIVERSITY OF LONDON
SECOND EXAMINATION FOR MEDICAL DEGREES
PART I
July, 1928.

J. L. Bates	F. G. Holman
I. A. Cathie	D. H. Irish
F. B. Champion	I. Levy
J. C. Colbeck	R. M. Outfin
F. Crowther	C. B. R. Pollock
G. J. Evans	T. W. E. Pugh
T. A. Gavin	L. Stoll

SOCIETY OF APOTHECARIES OF LONDON
July, 1928
Medicine
*H. S. Marks
*Has now completed the Examination.

UNIVERSITY OF OXFORD
June, 1928
Anatomy and Physiology
P. H. Lomax.
Materia Medica

R. S. B. Pearson	B. T. Squires

Pathology
J. M. Lees
Forensic Medicine and Public Health
F. G. Parker
Pass

O. A. Beadle	L. T. Ride.

Birth.

TRAFFORD—On July 8th, 1928, at "Brightside," Warlingham, Surrey, to Dr. and Mrs. H. Trafford—a son.

Marriages.

CAMPBELL—HUDD—On July 7th, 1928, at the Scots Kirk, Colombo, Arthur H. G. Campbell, of Kurugama Estate, Peraderniya, Ceylon, youngest son of the late Sir G. W. R. Campbell, K.C.M.G., and Lady Campbell, of 33, Drayton Court, Drayton Gardens, S.W., and Mabel Irene, second daughter of Mr. and Mrs. George Hudd, of North London.

RUSHTON—COLES—At Plymouth, on July 28th, 1928, Reginald S. Rushton to Esmé S. Coles (Guy's 1921-24). Address: Tavy House, Mary Tavy, Tavistock, Devon.

Death.

PARSONS—At Bournemouth, on July 2nd, 1928, of Dr. John Englis Parsons. M.D. Durham. M.R.C.P. Lond., aged 71 years. A post as House-Surgeon at Guy's in 1886, preceded a distinguished career as gynæcologist in connection with the Chelsea Hospital for Women.

WHITE—On August 6th. Dorothy dearly loved wife of Ernest White, 12, Ripon Road, Harrogate.

Correction

We regret than on page viii of July 14th issue of the Gazette, in an advertisement of Messrs. H. K. Lewis & Co.'s well known Medical and Scientific Circulating Library, the price of a complete catalogue to the library was given as 17*s.* 6*d.* to subscribers instead of 7*s.* 6*d.*

Eds. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLII. *August 25th, 1928.* *Number 1046*

PASSIM

TWENTY years ago, while Bart.'s men were reputed to possess more "side" than the men of any other hospital, the Guy's graduate was held to consider himself possessed of supernatural ability. We doubt whether either of these charges, whatever the foundation at that time, could be maintained to-day. Both side and supernatural ability are at a discount, and if we still differ greatly from members of the rival institution it is least of all because they are snobs and we have swollen heads. We are inclined to think that whatever difference there may be—and that there is a definite, though ill-defined difference, no one will deny—is due to the greater leavening of our personnel with men from South Africa and the Colonies generally. The tradition leading those from overseas, and in particular the South African, to seek this hospital has been of great benefit to us in many ways other than in our athletic and football activities. The usual English school and 'varsity are apt to leave projecting edges which need contact with an entirely different material for that smoothing-down process from which both sides stand to gain considerably in the end.

We should like this journal to provide an efficient link with old associations for those who have returned abroad at the close of their training, and with that object most heartily invite correspondence and copy with either a general or a technical flavour from old Guy's men in countries where working conditions must be so very different to those in England.

▭

SIX years or so at a teaching hospital should satisfy even the most burning thirst for medical knowledge, but not in the case of Mr. S. Wells, who has recently returned from South America to indulge in post-graduate work. We should like to congratulate him on the popularity he has achieved in the course of a regular, if unobtrusive, attendance at the Out-Patients of the special departments.

AN assault on the roof of the College subway has definitely commenced. We are given to understand that on completion of the proposed alterations the sinuous course of this structure will suffer a straightening out that may rob it of its present value as a sharp test for the resident who has dined not wisely but too well. In addition, several new windows below ground level will admit much needed light and air to those regions whence ward maids emerge with so much clatter and cackle on their twice daily straggle across the Park. If these good people are accustomed to make as much noise below ground as they do above, we fear that the lunch time sizzle of sisterly syphons will be hopelessly drowned as soon as the new windows are in place.

▭

WE are now passing through that unfortunate period during which there seems to be little organised athletic activity of any kind to record. We note, however, that the Rugger secretary wears a worried look, while the Hockey people are beginning to think seriously about the matter of a new ground—an unsolved problem to date. Of Hospital Soccer there is as yet no sign of life, though the professional game is already in full swing. We are curious to see if the coming season will produce a revival in a game which appears to be losing popularity in our own particular circle at any rate.

▭

WE have been asked to announce that the Second International Conference on Light and Heat in Medicine, Surgery and Public Health will be held at the University of London, S.W.7, on October 29th, 30th and 31st, and November 1st. This Conference quite clearly has not the universal and popular appeal that, for example, the Cancer Conference had, but it is certainly not without its very real interest to the medical world. For light and heat, the detailed study of which most of us were only too glad to leave behind when we went into the dissecting room, have already come into

their own as a separate and expert branch of practical medicine and surgery.

We have also received a pamphlet, in the shape of a reprint from *L'Union Medicale du Canada*, advertising a series of post-graduate lectures in English, to be held under the direction of the Paris University Medical School during October in Paris. This series, which covers many fields, appears to be part of a scheme for the "development of medical relations between France and Allied Countries," particularly with the United States and Canada. We presume that it is for the benefit of these two Allies that some lectures have been arranged on "puericulture" and that other lectures are to be accompanied by "roentgenologic projections," phrases which carry with them a very definite transatlantic flavour. We shall be glad to supply details of fees for the lectures and the exact dates on which they occur to any prospective post-graduate student.

Mr. J. K. Moore has been elected President of the Residents and Mr. D. E. Dunnill Vice-President for the forthcoming three months. The Residents' "going-off" dinner, always the most cheerful and exhilarating of performances, was, perhaps, even more noisily appreciative this time than usual. Reputations are more easily made and lost at these functions than anywhere else, and it is probably fortunate that there is usually a pronounced loss of memory for recent events on the following day.

A Case of Influenzal Meningitis

Harold H——, aged 3 years and 8 months, was admitted to John on July 29th, 1928, for convulsions and cyanosis. He was an only child and labour was easy. He was noticed at birth, however, to have a large head. He had had no illness of note except for fits, which recurred at infrequent intervals.

A week before admission the patient developed a cold with some cough. On the day before admission he was listless, and complained of pain across the lower part of the front of the chest. The next morning he was very restless, vomited once or twice, and complained of headache, and, later, had six fits lasting two or three minutes, accompanied by cyanosis and twitching of the hands and arms. His breathing became more rapid, and he was semi-comatose. He was brought up to the Hospital in the afternoon and admitted.

On admission he was comatose, but resented examination. There was marked cyanosis, and coarse râles were audible on both sides of the chest. Temperature 102°, Pulse 136, Respiration 56.

On examination of the nervous system there was no apparent paralysis of any limb. His pupils were moderately dilated and reacted to light. Both fundi were markedly congested. The tendon reflexes were all present, and there were bilateral extensor plantar responses. Only the left lower abdominal reflex could be obtained. No ankle clonus, Kernig's sign or head retraction was present at any time.

Soon after admission he had several fits, each lasting about two minutes, during which there were clonic spasms of the facial muscles, arm and leg on one side, with a divergent squint. These convulsions were sometimes confined to the right side, sometimes to the left, and recurred at intervals until his death.

After a temporary improvement on the evening of admission (July 29th) he was worse the next day. Except for very short intervals he was completely unconscious. Reflexes were difficult to obtain, and there was a well-marked tache cérébrale. A diagnosis of meningitis was made, probably tuberculous, in spite of the acute onset. On lumbar puncture, turbid fluid under 4× normal pressure was obtained. The fluid contained many pus cells, and the protein was 0.2 per cent.; on bacteriological examination no micro-organisms could be seen, and cultures remained sterile. A second lumbar puncture yielded similar fluid, which on cultivation gave a growth of Gram negative bacilli of the influenzal type.

The patient's condition grew progressively worse, his temperature rose to 106°, and he died at 10 p.m. on the 31st, two days after admission.

At autopsy, both lungs contained excess of fluid and there was pus in many of the bronchi; there was a small area of consolidation in the right lower lobe. The brain was very large and congested, but in spite of its size the ventricles were not distended and contained little fluid; the choroid plexus was very congested. The most pronounced feature was a large quantity of yellowish pus in the interpeduncular space, extending along the course of the middle cerebral artery on to the vertex, where the convolutions were much flattened. The pus contained Pfeiffer's bacillus in large numbers.

I am indebted to Dr. Marshall for permission to publish this case.

J. E. M.

Scurvy.

Clinical Lecture by Geoffrey Marshall, M.D.

GENTLEMEN,—The patient you see before you was admitted to John Ward four days ago for pain and stiffness in the legs and bleeding from the mouth and from the bowel. I have here a very full report written by Mr. J. E. Crooks, and from it we learn that the man is a boot repairer, 49 years of age, who dates his present trouble from six weeks ago, when he noticed that his left ankle was painful and that the skin over it was discoloured as by a bruise. The purple area became more extensive, and the ankle gave him so much pain that he was unable to stand at his work bench. A week later the right knee became painful and the skin in the popliteal space turned a deep purple colour; walking now became impossible and the patient took to his bed.

You will notice that the patient looks ill and pale, his mouth is edentulous and there are red granulations projecting from his toothless gums, and on the hard palate there is a superficial ulcer surrounded by extensive hæmorrhage into the submucosa. The right knee is fixed in a flexed position, the skin over the back of the thigh is discoloured and the limb is of a hard, almost wooden consistency as a result of a deep extravasation of blood. We have discovered nothing else abnormal apart from a secondary anæmia with hæmoglobin 65 per cent., the urine and blood-urea are normal. The patient is obviously suffering from scurvy, and scurvy is one of the deficiency diseases due to a faulty diet. It is met with chiefly in times of war and famine, but sporadic cases occur from time to time as a result of artificial restrictions practised by food cranks and dyspeptics. Our patient is one of this last group; he began to suffer from dyspepsia seven years ago, and, cutting off one article of diet after another, he has subsisted for the last six years on brown bread, butter, milk, cocoa and one egg per diem.

Scurvy or scorbutus is defined as a deficiency disease, characterised by debility, anæmia, mental apathy, a spongy condition of the gums and hæmorrhages into the subcutaneous tissues. Pliny wrote a description of the condition in the first century, while maritime scurvy was first described in 1497 by the great navigator Vasco de Gama, who lost 100 out of 160 of his men from it before reaching the Cape of Good Hope. It was a common cause of sickness and death in the crews of the old sailing ships, and in 1795 the Admiralty took steps to combat it by issuing a daily ration of lime juice on all British ships. Scurvy has caused the failure of several Arctic expeditions, and was responsible for the tragic end of Captain Scott, Lieutenant Oates and their companions.

Infantile scurvy was long confused with rickets —scurvy-rickets—until Sir Thomas Barlow established its identity with adult scurvy in 1883. Our more precise knowledge is due to Casimir Funk, who established the need for certain nitrogenous substances in the food, which he termed "vitamines." Three of these vitamines are recognised :—

(1) Fat-soluble A—the growth-producing and anti-rachitic factor.

(ii) Water-soluble B—the anti-neuritic factor.

(iii) Water-soluble C—the anti-scorbutic factor.

Morbid Anatomy—

The body is not wasted, hæmorrhages are found in the skin and subcutaneous tissues and under the periosteum on the long bones. Bloody exudates may be present in the joints and other serous cavities; the heart muscle is softened and may show fatty degeneration, as may the liver also. The gums are soluble and spongy, overgrown and ulcerated. In infants there is rarefaction of the cancellous tissue of the bones in the neighbourhood of the epiphysial lines, and this leads to fractures and dislocations and to cessation of growth.

Symptoms—

The most frequent symptoms are swollen and softened gums, livid patches on the skin and rigidity of the brain-strings. In severe cases there may be bleeding from the mouth, nose and internal organs.

The onset is insidious, with weakness and apathy. The face is pale, eyes sunken, bruising occurs from slight trauma, and there may be pains in the limbs, œdema of the ankles and slight diarrhœa. The gums are blue or purple and swollen around the incisors and any carious teeth; they grow down in projections between the teeth and discharge an offensive blood-stained fluid. The teeth may loosen and fall out, and necrosis of the alveolar margin may occur.

Cutaneous hæmorrhages may be petechial or may take the form of nodules or vesicles; they

may ulcerate with function of a black scab, which, on separation, leaves hæmorrhagic granulations surrounded by a violet halo. Subcutaneous and muscular hæmorrhages are most common in the hamstrings and at the bend of the elbow.

The Blood—

The blood shows no characteristic changes except secondary anæmia ; a high blood-urea has been found in animals with experimental rickets.

Urine—

No abnormality in adults ; in infants it may contain albumen or blood.

Nervous System—

Reflexes are usually normal, but mental changes in the form of apathy and depression are common.

Infantile Scurvy—

This may be overlooked, as the condition may be only moderately developed, when it is shown by pallor, failure to gain in weight, peevishness, tenderness of the bones, œdema of eyelids and ankles, a few petechiæ on the conjunctiva or frenum of the tongue and rapid pulse and respiration. Hæmaturia is common, orbital hæmorrhage with proptosis of the eye-ball may occur after a fit of crying and displacement backwards of the sternal ends of the ribs may follow fractures at the costo-chondral junctions. X-ray shows fractures, periosteal thickening and a broad translucent line, thickest at the centre, between the epiphysis and diaphysis of the long bones. The child is apt to lie on its back with one or both legs everted and motionless. The gums may not show any of the characteristic changes if the mouth be edentulous.

Complications—

These are found most frequently in the lungs. Œdema often develops, and it may be followed by pneumonia or even gangrene, resulting in death.

Diagnosis—

In adults the condition may be confused with purpura hæmorrhagica, acute lymphatic leukæmia and mercurial poisoning.

In purpura hæmorrhagica the gums are not swollen ; acute lymphatic leukæmia is often accompanied by gingivitis, but the blood picture is characteristic.

Mercurial poisoning may simulate scurvy very closely, but there is constant salivation, and a history of mercurial administration is obtained in place of the restricted diet, which is the invariable feature of scurvy.

Prognosis—

The condition lasts for several months even in mild cases, but complete recovery is the rule when treatment is instituted early. During the last 50 years the mortality has been under 2 per cent. at the Seamen's Hospital at Greenwich. Permanent damage to joints sometimes follows hæmarthroses, and if death occur it is usually the result of pulmonary complications, dilatation of the right side of the heart or hæmorrhage from one of the mucous membranes.

Prophylaxis—

Scurvy has almost entirely disappeared from military and naval personnel as the result of the provision of vegetables and fruit in the diet. Chick showed that canned vegetables were valueless. Nansen prevented scurvy in his three year expedition by provision of fresh polar bear meat, and Stefanson lived for five years in the Arctic and escaped scurvy by feeding exactly like the Esquimaux. For long periods in the year their diet is restricted to fish, which is stored in the snow. They have literally no other food whatsoever, neither meat nor vegetable, and they take two meals a day, one consisting of cooked fish and the other of raw fish, which is eaten as a deliquescent paste. They have discovered the necessity of taking food whose value has not been impaired by cooking.

Raw fruit juices are the most effective preventive of scurvy, and orange juice is probably the best. Limes contain little anti-scorbutic vitamine, and the juice soon loses its value when bottled, so that it was fortunate that dishonest contractors were in the habit of substituting the cheaper lemon for the lime specified in the regulations for British ships. When fruit juice is not available, fresh tomatoes make a good substitute, as also do germinating pulse or malt. Meat juice and raw milk are effective if given in large quantities.

Treatment—

The treatment is simple and its effect dramatic. Rapid improvement follows the administration of fresh fruit, vegetables or raw meat.* The mouth should be cleansed by washes of potassium permanganate or other suitable antiseptic.

* The patient shown at this lecture has since been discharged cured after two weeks on a full diet, supplemented by orange juice. Mobility of the stiffened limbs was restored by massage and exercises.

Change of Address.

Wm. Philip Le Feuvre, Greenfield Road, Kenilworth, C.P., South Africa.

A. H. Douthwaite, M.D., 40, Harley Street, W.1. (Tel. : Langham 3473.)

Sir W. W. Pryn, K.B.E., C.B., Roborough, Christchurch Road, Sidcup, Kent.

Pieter K. Albertyn, L.D.S., R.C.S., George, C.P., South Africa.

S. F. Durrans, Whangarie, Church Road, Broadstone, Dorset.

Mrs. E. M. Mackie, 10, Charlotte Street, Ayr, Scotland.

Hysteria.

Clinical Lecture by Dr. W. Hale White, on November 4th, 1904.

(Introductory Note by Dr. C. P. Symonds.)

As I am responsible for the suggestion that Sir William Hale White's lecture should be reprinted in this GAZETTE, *I may perhaps be allowed an explanatory word of introduction.*

I read this lecture for the first time after the publication recently of one of my own upon the same subject. That the ideas contained in both are similar does not surprise me when I remember that I was Sir William's Ward Clerk and House Physician and derived my first knowledge of practical medicine from his teaching.

Twenty-three years have elapsed since his lecture was given. During that time there has been some advance in our knowledge. A morbid anatomy has, for instance, been discovered for paralysis agitans, and the technique of what is now called psychotherapy has been improved. But the essentials of diagnosis and treatment remain the same, and can seldom, I think, have been so clearly presented as in this charming essay.

GENTLEMEN,—We have here two patients afflicted with hysteria. I have often talked about giving a clinical lecture on hysteria, but up till now I have fought shy of it, for it is a difficult disease to grasp and to represent clearly. But as we have two such excellent cases attending the hospital now I thought I would take the opportunity of trying to give you a clinical lecture on the affection. I think it will be best to first describe the cases, after which the nurse can take the patients away while I tell you something about the disease.

The patient who is sitting down is a girl 17 years of age, who came into the Hospital on the 23rd of last month. Her mother is a chronic invalid and suffers from nervous debility. We learnt that the patient began to get as you see her now three months ago. The movements which you see she has are much more violent when she is excited. We were also told that when alone she seems depressed, and says she often wishes herself dead. She takes no interest in things going on around her, does not read, she sleeps badly, her appetite is so poor that there has been considerable difficulty in getting her to eat, but —an important point—she has not got any thinner during the last few months. On the 23rd of October she arrived at the hospital accompanied by two doctors, who brought her to Clinical ward for an opinion. When we saw her first she was sitting by the fire and continually swaying backwards and forwards as you see her now. Mr. Alcock has well described the movement in the report by saying it gives you the impression that she is constantly trying to row a boat; it is just like that, and it goes on continuously for hours at a time. These rhythmic rowing movements take place at the rate of about 60 to the minute. In addition, there is a fine tremor in the hands. Beyond what I have told you there is nothing whatever the matter with her. She has no anæsthesia, no loss of power, her heart and lungs are healthy, and there is nothing abnormal about her urine. She is easily upset and readily cries.

This other girl many of you have seen, as she has been in the hospital for six months. I have brought her to you on account of her peculiar walk. She was in the hospital, you will remember, all last summer, and during the time she was here she had many severe attacks of hæmatemesis. I will tell you more about these as the lecture develops. Also you may remember she went into a complete trance, which lasted for several days. So complete was this trance that she did not blink her eyes under the strongest light, but lay apparently totally unaware of everything that was going on around her, her eyes meanwhile being widely open day and night. Except that her heart was beating and her lungs just expanding, you would not have thought her to be alive. Since she has left the hospital she has developed this curious gait. And I want you to notice that it is not the gait of any known organic disease. It is not the gait of hip disease, and it is not that of any organic affection of which I am aware. She has been very carefully examined, but without any evidence being found of disease of the hip or thigh, or, in fact, any organic disease which would cause such a walk.

You will have noticed, gentlemen, that I have at once told you what is the matter with those patients, namely, that they are suffering from hysteria. And I suppose, therefore, the first thing that I ought to do is to try and convey to you something of what we mean by saying that a

patient has hysteria. When I began to think about this lecture I naturally looked up the definition in a popular text-book. And I happened to pick up first *Osler's Medicine*, where, you will remember, that hysteria is defined, in the words of Möbius, as "A state in which ideas control the body and produce morbid changes in its functions." That does convey to us something of what the disease is, but it is not by any means a correct definition; for surely you are not going to say that everyone is hysterical in whom the ideas control the body and produce morbid changes in its functions. When I read that definition there came to my mind the famous picture which you can see in the Tate Gallery of the *Hopeless Dawn*. Do you mean to say that because a young wife is sobbing at the table because as the morning breaks there is no sign of her husband's boat coming back, and she therefore naturally has the idea that he has been drowned, she is the subject of hysteria? Yet that is a case in which the ideas control the body and produce a morbid change in the functions, that is to say, weeping. I do not think anybody would contend that the word hysteria ought to be extended to that degree. And not only does this definition cover too much, but it has the serious defect that it does not define what an idea is; it merely attempts a definition by introducing a word which itself needs defining, which, as you know, is very fallacious. I think we had better not attempt a definition, but go over some points about the disease and so try to get some sort of picture of what it is.

In the first place, it has nothing whatever to do with the sexual organs. The name is unfortunate. It dates back to the time of Aristotle, when it was thought the womb moved about the body. In the next place, for a patient's disease to be hysteria there must be no organic cause for the symptoms produced. By that I mean that by no means of dissection, histological analysis, or chemical pathology would it be possible in a hysterical patient to demonstrate after death that the body was in any way diseased so as to explain the symptoms. So for the case to be one of hysteria there must be no organic disease. In the next place the disease called hysteria is rarely, if ever, fatal. That is an important point to bear in mind when thinking about it. But there is a still more important point which I find it necessary to mention from having to see a good deal of you and helped to teach you, namely, that you must remember hysteria is not malingering. It is a serious error to get into your heads that the hysterical patient is a malingerer. The hysterical patient believes in her symptoms. Both those girls think they have got a disease which leads to manifestations which you are able to observe. The malingerer knows perfectly well that he has nothing the matter with him. It is a cruel mistake to believe that the hysterical patient herself voluntarily produces her symptoms. It is cruel because if you get that view into your head you treat the patient cruelly, as though she were an impostor. Neither of these women is an impostor. Therefore, do remember that distinction between malingering and hysteria: that the malingerer knows he is an impostor, whereas the hysterical person is not an impostor, but believes in her symptoms. Again, for the case to be one of hysteria the symptoms must not constitute a definite clinical picture. I doubt very much if you will see two cases of hysteria precisely alike. There are several diseases, for instance, paralysis agitans, epilepsy and neuralgia, which have no morbid anatomy, but they are each such a distinct clinical picture that within certain narrow limits one case of paralysis agitans resembles another case of the same disease. But the limits of hysteria are so wide that a complete account of it is as yet unwritten. Another criterion which the case must fulfil for it to be one of hysteria is this: that the whole character of the patient, of the symptoms, and of the mode of recovery, must convey to anyone who is observing the case that the patient is deficient in what we call will power. You know the famous way in which Sir James Paget puts it. He said that the patient says she "cannot," and her friends, not grasping what hysteria is, say "she will not," and the doctor, who does grasp what it is, says "she cannot will." Without embarking upon the difficult task of attempting a precise definition of "will," that sufficiently conveys to your minds what I want, namely, it indicates to you that the patient with hysteria is always deficient in what we call will power; and this deficiency in will power is probably the explanation of many of the so-called miracles by which hysterical people are cured, those at Lourdes for instance. The hysterical sufferers who go there by so doing are fortified in will power, so that they are able to throw off their illness; and if you will think of that aspect of hysteria you will understand the beneficial result of many of the pilgrimages about which we read. Then, too, this aspect of the disease reminds us of the essential distinction between hysteria and other functional disorders. For nobody would say, surely, that the man with paralysis agitans suffered from want of will power. The man with the strongest will power in the world, Napoleon, for instance, was as likely to get paralysis as was anybody else. But Napoleon was not as likely

to get hysteria as anybody else. Another thing which I want you to picture to yourselves as necessary to the conception of hysteria, is that all hysterical patients are self-conscious; they are very self-conscious. That has frequently led to the belief that they are malingering, which is quite unfair. But the way in which that comes about is this: owing to the loss of will power the symptoms are at first quite unresisted. If you or I, supposing our will power to be up to the average, had some trivial ailment, we should no doubt resist it; we could probably cast from us all recollection of it. But neither of those girls whom you have seen have used that power even if they had it, therefore their symptoms were from the first quite unresisted. The unresisted symptoms soon attract attention. The first girl you saw has been fussed about; two doctors brought her to the hospital, and her friends, we are told, cannot control her; that sort of thing attracts attention. Therefore it is easy to see that she slides from the condition in which her symptoms were unresisted to the condition in which they are actually welcomed because they attract attention, and it is a very short step downwards from that to the state in which they will not only be welcomed, but actually recalled when there are plenty of people present from whom she can attract attention. That is borne out in this girl's case; if she is not noticed—and sometimes she is hardly looked at for a whole day—all that violent swinging movement which you saw stops; but if we go to watch her it comes on again. But still she is not malingering; she really believes herself to be ill; and if we treat her as a malingerer we treat her cruelly.

So far I have not attempted to give you any explanation of hysteria. I do not think that at present any satisfactory explanation of it can be given, but that does not by any means prevent our trying to find one. And I think a very fair working hypothesis—although one which is open to many objections—is that given by Myers in his book on *Human Personality*, which, if you are interested in these things, I should firmly recommend you to read, because it is such a fascinating book. Those of you who have read the book will remember that he supposes—and thereupon tries to explain many things, such as hysteria, hypnotism, trance and somnambulism—that we have two selves—or, shall we say, rather two parts of one self?—the higher of which he calls the supraliminal self, that is to say, the self above the threshold, and that is our ordinary selves, our personality. It is all that we are usually aware of unless any of us are diseased. You are only aware in the ordinary way of that which would be called your supraliminal self. For instance, Myers speaks of "that supraliminal current of consciousness which we habitually identify with ourselves." But then he supposes that there is a subliminal self, in which take place a number of mental processes of which our supraliminal is not ordinarily cognisant at all. And he would go on to say that in hysteria the supraliminal self, either wholly or partly, is in abeyance, and therefore the processes in the subliminal self come up, so to speak, being no longer overshadowed and kept down by the supraliminal self. To go back to our cases, the first would be explained by supposing that the reason that girl rocks to and fro is because her higher consciousness, her supraliminal self, being dormant, she originally did not properly resist the swaying movement when it began to develop, and consequently it has been allowed to progress, to come up from the subliminal self, to become the prominent action which we see. That view is believed to explain several undoubted facts. For instance, there is the very well-known and interesting observation that the hysterical person is unconscious of her anæsthesia. That is a very striking thing. When persons are anæsthetic from organic disease they soon discover that they cannot feel; but the hysterical girl is never aware of her anæsthesia at all until it is pointed out by the person who discovers it. Turning again to Myers' terminology, she is unconscious that she is anæsthetic because her supraliminal self, by which she would be conscious that she is anæsthetic, is dormant, and therefore she cannot be conscious that she is anæsthetic. Again, hysterical anæsthesia very rarely, I may say never, leads to any accident. It is notorious, for instance, that people with syringomyelia get burnt, because they do not feel heat or pain, but the sufferer from hysterical anæsthesia never gets burnt, and it has been supposed by Myers that the reason is that there is an exaggerated subliminal consciousness which prevents the hysterical person from burning herself, but that that is entirely subliminal, and she is unaware of there being any such consciousness. But in a gross organic disease, such as syringomyelia, the supraliminal self is there all the same, but it cannot receive impressions of heat and cold from the periphery, and so the part gets burnt. Two very pretty experiments bearing on this are mentioned in Myers' *Human Personality*. There is the case of a girl who had hysterical contraction of her fields of vision, an abnormality which is very common, so that it was only in the centre of either field of vision she could tell that there was anything to be seen. She was also very liable to hysterical fits. A fit was brought on by a bright

light, but a fit was produced by a light when it was thrown into a part of the field of vision in which she could not see. I think you follow me. Her supraliminal self was only conscious of the light when it got into the centre of the field of vision ; her subliminal self was, if I may use the phrase, conscious of it when it fell on any part of the field, and not only so, but the presence of the light produced the fit when the light fell on the outer part of the field of vision. Here is another case given of a subject who had hysterical peripheral contraction of the fields of vision and also fits, and the sight of a mouse would bring on a hysterical fit. A stuffed mouse was taken and brought slowly into the field of vision, and the stuffed mouse caused a fit long before the image of it got into that part of the field of vision of which the supraliminal consciousness was aware. That is to say, that the hysterical fit was induced by the mouse before the patient actually saw the mouse in the centre of her field of vision as the mouse was brought towards her.

I think very likely I have failed, but I have done my best to convey to you what I try to picture to myself as something of the state of mind of a hysterical person.

Now we will pass on to a perhaps less interesting but more practical part of the disease. In the first place, with regard to the etiology. Hysteria is strongly hereditary. The mother of the girl whom you saw sitting down is a chronic neurotic invalid, and it is necessary for you to remember that other neuroses often occur in the family. For instance, a girl may be hysterical, her father may have epilepsy, or her mother may be insane. But a neurotic history is very commonly present. Another thing which bears very much on the etiology of the disease is the upbringing of the child. If a child is brought up by silly parents who leave her mind more or less vacant and blank, that is to say, if they do not, in Myers' terminology, develop her supraliminal self, she is just the sort of silly, vacant-minded, idle girl who will become hysterical. Illustrating this, and showing how unfortunate some children are in their parents, I remember I had been seeing a girl with bad hysteria, and one day her mother turned up. I asked her what I could do for her, and she said what troubled her was that she could not sleep. I said, " Why cannot you sleep ? " " Oh," she said, " my bedroom is under my daughter's, and my daughter has a pet dog which sleeps on the foot of her bed, and in the middle of the night that dog gets up and jumps on the floor and wakes me up." Now, what should you do in a case like that ? Who could wonder at the girl being hysterical when she had such a fool of a mother ? Another frame of mind which easily leads to hysteria, and one of which history is full of instances, is the mind which dwells too much upon one subject ; that has often been so in the case of some monks and nuns, and other men and women who have thought that the right kind of life was to dwell on one particular subject.

It has been much discussed whether leading a child's mind to dwell almost exclusively on book learning may not lead to hysteria, and while I think the danger of this is exaggerated by some people, I believe that sometimes you will come across girls in whom the continual grinding for some examination, and thinking they must do it, and having no other idea before them, has led to hysteria. But it is important, in regard to this dwelling on one idea as a cause of hysteria, to bear in mind that on the whole intellectual causes for hysteria are rare. It is possible that overworking for examinations may have produced it, but it is unusual for such to be the case. It is emotional causes which you generally find at the bottom of the trouble. For example, I remember reading of the case of a woman who was badly hysterical after her husband had a fatal attack of hæmatemesis the night after their marriage. A severe frightful emotional cause such as this is just the thing to bring on severe hysteria. Depression of general health will also undoubtedly help to bring on the condition. If you are a family doctor and you suspect that the girls of any family are likely to become hysterical, make a point of their being in the best general health, and make them take active exercise and be out of doors as much as possible.

The next point, namely, that organic disease, especially of the nervous system, predisposes to hysteria, often leads to great difficulty, for you will come across cases in which it requires all your acumen to separate the symptoms due to organic trouble from those due to superimposed hysteria. Probably none of you remember—as it was some years ago—a lecture I gave on a case of cerebral tumour in which this difficulty was strikingly shown. I was able to show you the cerebral tumour on the plate, so there was no doubt about organic disease. Besides, the patient had double optic neuritis. One day she had hemianæsthesia and the next day it was gone, and anæsthesia was present on the other side. She was in hospital on and off for two or three years, and her report contained many diagrams of her varying state of hemianæsthesia. These were hysterical symptoms superadded to the organic symptoms of her brain disease. When you come to think of it, it is not surprising that when the brain is upset by the presence of a

tumour, that hysterical symptoms should develop. I mentioned just now that these patients were always self-conscious, and a morbid self-consciousness and a morbid vanity are often noticed as predisposing to hysteria. Another thing which predisposes much to hysteria is the kind of friends the patients have. I have no doubt that these girls' friends are foolish sympathising people. You do not often find hysterical people in a family in which the brothers and sisters and father and mother are sensible people, who do not sympathise with every fad which may present itself.

In connection with etiology, two things which are often discussed in books ought to be mentioned. First of all, how far disease of the sexual organs has to do with hysteria. I have already briefly mentioned this. Personally, I cannot call to mind a single case in which organic disease of the sexual organs had had anything to do with the condition. The degree to which that is supposed to be the cause of hysteria is greatly exaggerated. It is true that dwelling upon disorders of the sexual organs will bring on nervous troubles, such as melancholia, but not, as a rule, hysteria. The nearest case of the kind which came to my mind as I was thinking over this lecture was not one of disease of the sexual organs, but the case of a woman who married a man totally against her own will. She refused to sleep in the same room with him. She got into a hysterical state, probably through wondering whether she had a right to do so and have no children. Many people who have paid special attention to this have published figures which show that what I say is correct, that disease of the sexual organs has rarely anything to do with hysteria.

This disease has been said to spread from person to person. We do not see that nowadays, but our ancestors did, as I will tell you, in years gone by. We do not see here in the hospital that hysteria spreads in the wards. The last thing about the etiology which I would mention is that it is far more common in women than in men, and usually comes on at the age of from 15 to 35. If it occurs in males it is usually in boys.

The type of the disease, it is interesting from a historical point of view to remember, varies very much at different times, but it does not vary very much in the lifetime of any one doctor. You know that in the Middle Ages, between the years 1300 and 1400, it took the form of the dancing mania. This broke out at Aix la Chapelle, whither it was probably brought from Germany, and spread thence down the towns on both sides of the Rhine, and in Metz at one time there were 1,100 people affected with it. Thence it spread into Italy, where the notion was started that it was due to the bite of the tarantula, and hence it came to be called tarantism. One form of it was supposed to be capable of cure by visiting the shrine of St. Vitus, and hence it was called St. Vitus' Dance. Then that name got transferred to chorea. The symptoms were very striking. For instance, they are described thus: "Men and women, united by one common delusion, exhibited to the public, both in the streets and in the churches, varying strange spectacles. They formed circles hand-in-hand, appearing to have lost all control over their senses, and continued to dance, regardless of the bystanders, for hours together in a wild delirium, until at last they fell to the ground in a state of exhaustion. And then they complained of extreme oppression, groaning as if in the agonies of death, until they were swathed in clothes bound tightly round their waists, upon which they again recovered and remained free from complaint until the next attack came on." I have brought down for you to see afterwards a copy of an old print in which there are some people depicted afflicted with this dancing mania. This form of hysteria has passed away from Europe, but it is interesting to hear that it, or one very like it, still exists in Abyssinia. It is an interesting fact, because Christianity early spread to Abyssinia, and then became isolated by the Mahommedan countries all round, and you have there now the religious hysterical diseases of Europe in the fourteenth century.

About 150 years ago you will remember hysteria was called "the Vapours," and for the form it at that time assumed it was a very good name. It was quite different from the dancing mania. Most of the young women of that period suffered from the vapours; it was considered a very fine thing to suffer from it, and the novels of that time have many descriptions of people suffering from the vapours. The best description out of general literature I could call to mind when I was thinking of this lecture was a print by Bartolozzi of one of Bunbury's pictures, in which there is a girl in the typical position, languishing back and being held up by two other women, and these verses from *Lucy of Leinster* are under the print:—

Of Leinster famed for maidens fair
Bright Lucy was the Grace,
Nor e'er did Liffy's limpid stream
Reflect so fair a face.

Till luckless love and pining care
Impaired her rosy hue,
Her dainty lips, her damask cheek,
And eyes of glossy blue.

Ah! have you seen a lily pale
When beating rains descend?
So drooped this slow consuming maid,
Her life now near its end.

—*Colin and Lucy.*

That fairly well describes the type which hysteria took at that time. Nowadays, in England, the most common symptoms of hysteria are loss of sensation and motion, paraplegia and hemi-anæsthesia and hysterical hemiplegia. These are all common symptoms of hysteria. In France you will remember that quite recently, and even at the present time, the disease often takes the form known as hystero-epilepsy, of which I have only once seen a genuine case in England, though I have seen several in Paris. These patients exhibit the most extraordinary contortions, and I show you here many pictures of them. Almost the only cases occurring in England for which you could use the word hystero-epilepsy are those in which a patient who has epilepsy has hysteria too, and it is important to bear in mind that the two diseases may co-exist, because forgetting this may lead to very considerable difficulties of diagnosis.

As you know, in practice when you see a case of hysteria you see usually a girl who says she cannot move, who is bedridden, and is unable to move her legs. And when you go into her room you will notice that she has taken to her bed with much the same preparations as you would take up your abode in a room which you knew you could not get out of for some years. The bed is always perfectly tidy and neat, there is a shaded electric light, perhaps put in for the occasion, and so arranged that the light will fall in any direction, there is an electric bell fixed handy for the patient; I have seen four or five bells in a row to ring for different servants; and a table has been brought upon which flowers have been placed, and a book-rest, and a rest for meals; indeed, it is evident that the patient has laid herself in for an illness of several months' duration. The room is always sweetly pretty, and may have been decorated for the occasion. And in this pretty bed will be lying a girl who says she cannot move her legs at all. There are a few things which I should like you to notice about that girl when you go to the bedside to examine her. In the first place you will notice that though she cannot move her legs they have not wasted much. That is very important. You know that in every case, say, of fracture, you can see that muscles waste if they are not used. If you have a battery you find no reaction of degeneration in the paralysed muscles of the hysteric. You will also notice it is strange that while her two legs may be paralysed, or in another case an arm and a leg may be paralysed, it is exceptional for all four limbs to be paralysed in hysteria. Another strange thing is that it is quite exceptional for one limb only to be paralysed; hysterical monoplegia is excessively rare. You go on examining the girl and find that although she cannot move her legs her reflexes are present, which is an important diagnostic sign. Supposing she is hemiplegic, you will at once observe that the face is not affected, but it is affected in most cases of organic hemiplegia. If, again, you observe her very carefully you will notice that the paralysis is rarely absolute; she can move the limbs a little, and she will probably tell you that the condition came on suddenly. You will also notice that not only is the facial nerve spared, but virtually paralysis of any cranial nerve is unknown in hysteria, except that very occasionally the lids of the eyes are paralysed. Although in one sense the recurrent laryngeal nerve is a cranial nerve, I was not including that in what I said, because, as you know, hysterical paralysis of the adductors of the larynx, so that the vocal cords are widely abducted, is one of the most common of hysterical phenomena.

But your patient may not be of the paraplegic type, but of the spasmodic type, like the girls we saw here. The varieties which the spasmodic form may take up are so many that I cannot tell you much about them in detail. As a rule they are not difficult to diagnose. The extraordinary thing about these spasms is that they do not tire the patient. The girl you saw will go on with her movements all day and yet not tire.

In thinking about this condition it is necessary to have always in your minds the points of distinction between hysterical and epileptic fits. You know the typical hysterical fit always looks purposive, and the movements are such as might have been expected if they were purposive; not that they are. And you know that there is a clonic stage, but not a preceding tonic stage, as there is in a true epileptic fit. And the hysterical girl's pupils do not dilate; there is no froth, saliva or blood coming out of the mouth. It is helpful in diagnosis to remember that an epileptic series of convulsions hardly ever lasts more than three or four minutes; generally much less, while an hysterical attack may last 15 minutes or more.

Another form of hysterical muscular movement is rapid respiration. In an adult hysteria produces more rapid respiration than any disease. I have counted respirations 320 in hysteria. Hysterical patients often have an hysterical cough, but you can always notice in connection with that that it does not distress them. It distresses their friends horribly. Hysterics may bark all day, but they go through life as if they were perfectly well; they do not expectorate anything. Hysterical nystagmus is unknown.

There is a sensory group of symptoms, and it is very necessary, in thinking of the hysterical anæsthesia, to remember that it usually has a fancy arrangement. It never follows any known anatomical distribution. For instance, if the patient has anæsthesia in the leg, the area involved will be terminated by a horizontal line round the leg, or if it is a patch on the body it will have a geometrical form; it will not correspond to any known anatomical or physiological distribution. If it is hemianæsthesia the loss of sensation often does not extend to the middle line at the back, although it extends to the middle line in front. Again, as showing that the loss of sensation has no anatomical distribution, when there is hysterical amblyopia, which is a common condition, the lids are often insensitive as well as the retina. All this is interesting when thinking about what the disease means, because it shows that it is not an organic disease, which, indeed, we never suspected, but it also shows clearly that there is a perversion of some intellectual conception. Most people are not anatomists, and in the last-mentioned case, for example, the patient seems to have the conception that if her eye is anæsthetic to light, the eyeballs and eyelids should be anæsthetic to touch; she is unaware of the anatomical difficulties of such being the case. These subjects of hysteria, again, never have hysterical hemianopia; it is unknown amongst them. If the hysterical girl loses sight it is more or less complete amblyopia. You know organic cerebral disease hardly ever produces amblyopia; it nearly always causes hemianopia. The hysterical girl has tender spots, and the most tender of all is about two inches along a line adjoining the anterior superior spines, and if you press there you are generally said to be pressing on the ovary. But you know that the healthy ovary lies well down in the pelvis. Other common spots of tenderness are down the spinous processes, and there is also tenderness just below the nipple, so that these patients often think that they have cancer of the breast. Sometimes it is not only anæsthesia or the tender spots which they have, but they are hyperæsthetic, for instance, to light; and there is no doubt sometimes they can see things which we cannot see, just the same as they can hear notes sometimes which we cannot, on account of their auditory sense being unduly exaggerated. In connection with loss of sensation, it is interesting to notice that the hysterical girl who is completely anæsthetic in her hands, often holds her knitting needles well and can knit well. You can run pins into anæsthetic areas of hysterics without their feeling it at all, and the pin pricks often do not bleed.

We cannot for want of time describe the visceral symptoms of hysteria, but I will tell you a few facts about them. It is wonderful to notice how life may be supported even if there is vomiting. I have known a woman vomit perpetually every particle of food, apparently, for a month, and not waste very much. And the hysterical vomiting may occur from any part of the intestine. An enema has been known to be vomited on many occasions within 10 minutes of its being given, suppositories have also been vomited after the same interval of time, and to prevent deception methylene blue has been mixed with the enema, and then the whole bulk of the blue enema has been vomited in 10 minutes, although the patient has been carefully watched the whole time. The abdomen has often been opened under the idea that there must be a connection between the stomach and the intestine for this to happen, but no such connection has been discovered.

There is no doubt whatever that hysterical hæmatemesis may occur. That has been proved, I think, by well-recorded cases, and I believe that the hæmatemesis in the girl you saw is hysterical. These hysterical people often get retention of urine. Suppression of urine, however, is very rare. It is common for the subjects of hysteria to pass a quantity of pale dilute urine, and, as you know, they frequently suffer from palpitation and from what is known as globus hystericus. Occasionally their temperature is raised. Undoubtedly hysterical temperatures do exist, but they are very rare, and, generally speaking, direct fraud is practised by friction of the thermometer, so that the mercury is made to rise. As I pointed out to you, these patients are often emotional, and laugh and scream a good deal, and, as you know, they frequently become mental cases and drift into asylums.

Now a few words with regard to treatment. In the first place, hysterical patients must have no sympathy at all from their friends. We have put the girl you saw in the alcove in Miriam ward with screens round her, and nobody pays any attention to her hysterical symptoms, and she is getting better fast. These patients must have abundance of good food, and you must get rid of their friends generally if they are of the sympathising kind. The girl in Miriam ward would never have got well if she had remained at home. Never fuss these patients, but, on the other hand, never regard them as malingerers; you can only come to grief if you do. Hysteria is a real disease. I often think that hysterical patients are better for taking an effervescing mixture of valerian and asafœtida. Disgusting as it is, they drink it up, and they seem to be

better for it; they think that a medicine will do them good, so it probably does by suggestion. A few cases are suitable for the Weir Mitchell treatment. I will not attempt to describe it to you now, but I would point out that it is often tried in most unsuitable cases. It is no good to give the Weir Mitchell treatment if the patient is drifting towards becoming a mental patient; it is no use if the patient is very fat, and I do not think it is much good for the commoner cases, in which there is a marked loss of power, say, in hysterical paraplegia, or again in cases of marked loss of sensation, as in hysterical hemianæsthesia. The ideal case for the Weir Mitchell treatment is the wasted girl, the patient who has slowly wasted to a shadow from constant vomiting and inability to take her food. If she is properly treated by the Weir Mitchell form of treatment she will be well in about six weeks. I cannot now possibly go over with you the points of the diagnosis of hysteria from organic disease, but I hope that having gone over the disease itself we have incidentally mentioned many of them. But do remember, as I have pointed out to you, that it is frequently associated with organic disease. Never forget that you must distinguish it from malingering, and please remember that the most respectable people may malinger in the most extraordinary way. I remember a girl whose life was apparently a bright one; she went out a good deal and won prizes at croquet tournaments. She had an extraordinary rash on nearly the whole of her trunk and limbs. It was quite unlike any skin disease I have ever seen. And if you had seen the girl, her parents and her general surroundings, you would have agreed with me that it was a serious diagnosis to say that that girl voluntarily produced the disorder. We never found out how she did it, but we found out that if we put plaster of Paris, say, on one leg, she never got any rash there, nor was it ever observed where the hands could not reach, but it continued in the places where the paster of Paris was not put. To make a long story short, we proved that she did cause the skin eruption in some way or another; probably she made the superficial ulcerations with scissors, and then stained them a peculiar colour, but what with we could not discover. I remember a nurse who said she had a tremendous pain in the rectum; and when examining her I put my finger first into the vagina and drew it away and found there was blood on it. I then washed it and put it into the rectum, and there was blood on it. Now I do not know any disease which will cause blood in both the rectum and the vagina, except a large growth, so I suspected, what turned out to be correct, that she scratched the vagina and the rectum to make them bleed, and we found out afterwards that she had let herself be operated upon and have her kidney explored because she malingered the symptoms of stone. Later, she said she could pass no urine. We detected that she malingered by finding urea in the water in which she had washed. No nurse ever found out how she did it, but she managed to pass her urine in the basin which she was given to wash her hands in. The most difficult malingerers you have to deal with are those who have an organic disease and malinger to excite sympathy. I well remember a man who came in here who had cirrhosis and used to vomit blood, and the moment he vomited blood he threw himself down in the street malingering an epileptic fit, and he always got admitted into Clinical ward because of the interesting association of profuse hæmatemesis with supposed epilepsy.

I may conclude by reading you an extract from Fielding's *Amelia*, which will show you that in his time, as now, hysteria was a serious disorder:—

"These fatigues, added to the uneasiness of her mind, overpowered her weak spirits, and threw her into one of the worst disorders that can possibly attend a woman; a disorder very common among the ladies, and our physicians have not agreed upon its name. Some call it a fever on the spirits, some a nervous fever, some the vapours, and some hysterics. 'Oh, say no more,' cries Miss Matthews, 'I pity you, I pity you from my soul. A man had better be plagued with all the curses of Egypt than with a vapourish wife.'" I am not sure that, provided the wife is very vapourish, Miss Matthews was not correct.

Guy's Hospital Gazette.

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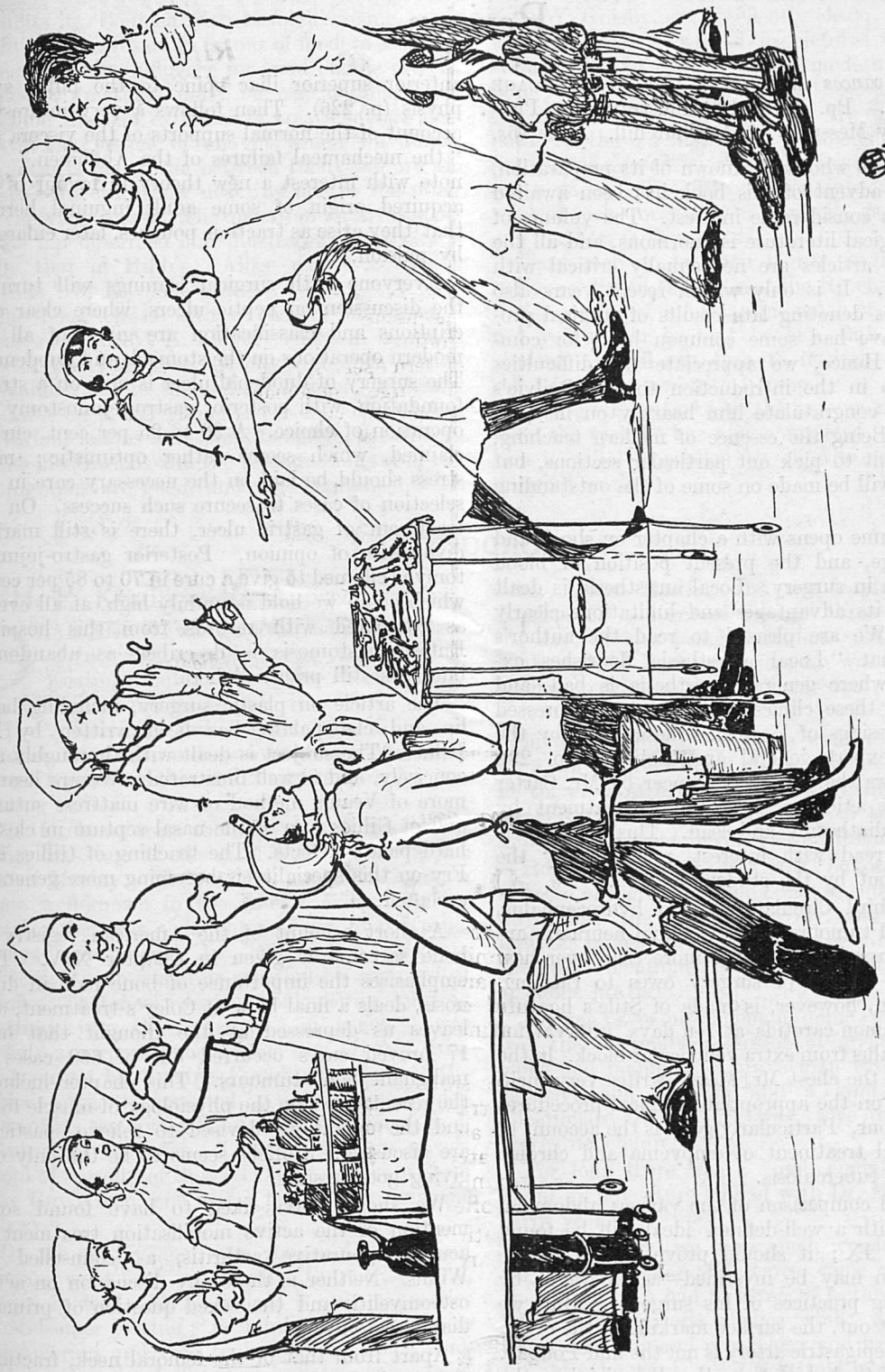

"The Absent-Minded Dresser."

Reviews.

Recent Advances in Surgery. By W. Heneage Ogilvie. Pp. 461; 108 Illustrations. Published by Messrs. J. & A. Churchill. *Price* 15*s.*

BY those who have known of its preparation, the advent of this book has been awaited with considerable interest. The volume of recent surgical literature is enormous, and all the authors of articles are not equally critical with themselves. It is only within recent years also that figures denoting late results of surgical procedures have had some common basis for comparison. Hence, we appreciate the difficulties referred to in the introduction to Mr. Ogilvie's book, and congratulate him heartily on his production. Being the essence of modern teaching, it is difficult to pick out particular sections, but comment will be made on some of the outstanding features.

The volume opens with a chapter on shock and hæmorrhage, and the present position of blood transfusion in surgery. Local anæsthesia is dealt with, and its advantages and limitations clearly defined. We are pleased to read the author's opinion that "Local anæsthesia flourishes exceedingly where general anæsthesia is bad, and visitors to these clinics are often less impressed by the blessings of local anæsthesia than by the need for expert general anæsthetists" (p. 29). Then follows the section on cancer by Mr. Carter Braine—its ætiology, spread and treatment by radiation, diathermy and lead. This should certainly be read with interest, not only by the qualified, but by the student as well.

The "Third Circulation" and hydrocephalus, intracranial tumours and trigeminal neuralgia are freely discussed; we realise more than ever how much this branch of surgery owes to Cushing. No mention, however, is made of Stile's ligature of the common carotids at ten days' interval for hydrocephalus from extra ventricular block. In the chapter on the chest Mr. Massie writes very lucid summaries on the appropriate surgical procedures now in favour. Particularly good is the account of the surgical treatment of empyema and chronic pulmonary tuberculosis.

A critical comparison of the various abdominal incisions with a well-defined ideal will be found in Chapter IX; it should prove helpful to the dresser who may be mystified—as we were—by the differing practices of his surgeons. But, we would point out, the surface marking of the origin of the deep epigastric artery is not the mid-Poupart point, but that bisecting the line joining the anterior superior iliac spine to the pubic symphysis (p. 226). Then follows a very interesting account of the normal supports of the viscera and "the mechanical failures of the Abdomen." We note with interest a new theory in favour of the acquired origin of some adult inguinal herniæ: that they arise as traction pouches, later enlarging by pulsion.

Everyone with surgical leanings will turn to the discussion on peptic ulcers, where clear descriptions and classification are given of all the modern operations on the stomach and duodenum. The surgery of duodenal ulcer is now on a strong foundation, with posterior gastro-jejunostomy the operation of choice. A 90 to 95 per cent. cure is claimed, which seems rather optimistic; more stress should be laid on the necessary care in the selection of cases to secure such success. On the treatment of gastric ulcer, there is still marked divergence of opinion. Posterior gastro-jejunostomy is claimed to give a cure in 70 to 85 per cent., which again we hold is unduly high, at all events as compared with records from this hospital. Entero-anastomosis is described as abandoned, but it is still practised here.

The article on plastic surgery, including hare-lip and cleft-palate, has been written by Mr. Kilner. The subject is dealt with thoroughly and concisely, and is well illustrated. We are hearing more of Veau's method of wire mattress sutures, and of Gillies' use of the nasal septum in closing hard palate defects. The teaching of Gillies and Fry on this speciality is becoming more generally accepted.

A short account of the American registry of bone sarcoma is given in Chapter XIV. This emphasises the importance of bone pain in diagnosis, deals a final blow at Coley's treatment, and leaves us depressed at the thought that only 17 proved cures occurred out of 650 cases of malignant bone tumours. This chapter includes the recent views on the physiology of muscle tone, and the operations devised to relieve spasticity are discussed. Stoffel's seems to be the only one giving good results.

We should have liked to have found some mention of the active mobilisation treatment of acute suppurative arthritis, as counselled by Wilms. Neither is there any discussion on acute osteomyelitis and the vexed question of primary diaphysectomy.

Apart from that of the femoral neck, fractures are not dealt with in detail. The size of the book

prohibits it. Coupled with Mennell's name, more might have been said in favour of modern methods of massage. Its influence for good on the present results in fractures must be considerable.. On page 403 the two extremes of treatment are described—the justice of one of which we doubt. The ideal is said to lie between them, but we are left to conjecture how near the one or the other Mr. Ogilvie places it. The operation for arthrodesis of the hip described and illustrated as Albee's is really that of Hibb's; Albee makes a "flying buttress" of his bone graft.

The book closes with a chapter on venereal diseases by Mr. V. E. Lloyd. This will be found to be of practical value, not only to those interested in syphilis, but to the general surgeon, especially the table on p. 427 giving the average time taken by various lesions to respond to specific treatment.

The illustrations and the reproductions of X-ray photographs are good, and the diagrams by Dr. E. D. Y. Grasby, are excellently clear. But surely valuable space is wasted in pictures of Labat's syringe with 10 needles and a modern operating table! The most important of the references are given at the end of each chapter. We rather prefer however, the old method of numbered indices to each work quoted, even at the expense of a few extra pages. The introduction into an English work of such words as neuro-surgery, gasserectomy and fixidity is deprecated.

Those men up for their higher surgical examinations will find this issue of the Recent Advances Series a mine of information, much of which does not yet appear in text books. But the senior student as well can turn to it with a welcome relief from his favourite "tome."

Mr. Ogilvie remarks on the enjoyment obtained from the task he has now completed. We assure him it will be equalled by all who read his engrossing work. D.W.C.N.

Correspondence.

H. P. Keatinge—an Appreciation.

DEAR SIR,—I was glad to read in your issue of July 28th an obituary of the late H. P. Keatinge, but as it is rather short perhaps you will allow me to amplify it.

H. P. Keatinge and I entered at Guy's on October 1st, 1878, and soon became friends, and shared rooms together in Trinity Square for two years.

His forebears were soldiers on both sides. His father was one of the first V.C.'s, won in the Indian Mutiny. His mother was a Pottinger, a name well-known in the Indian Army, and his grandmother was a daughter of Sir John Keane, always remembered by his laconic telegram "Peccavi"—in which he reported his conquest of Scinde. Therefore I had no difficulty in enlisting Keatinge into the "Artists," in which I was already a corporal, and I gave him his first drill. He soon got his "stripes," and, when he was the junior sergeant, accepted a commission, which none of his seniors could afford to do, though each in turn got the offer. I have before me now a photo of a group of those N.C.O.'s—seven of them were Guy's men, one was a Bart.'s man and one a lawyer.

Of the Guy's men, the senior, Col.-Sergeant Lawson, went back to his native Cumberland and, I fear, is dead. G. S. Pollard is still in practice at Midsomer Norton; he retained his interest in volunteering and rose to be Lieut.-Colonel commanding his local Territorials. Longman practised in Southampton and died there. J. P. Martin still flourishes at Box, but his better-known namesake, Albert Martin, who was captain of the Rugger XV and one of the best three-quarters of his day, besides being a brilliant student, went back to New Zealand, where he was one of the leaders in the profession till his too early death, a few years ago.

In his third year Keatinge went to Newcastle for a year in order to get his Durham M.B. Degree; he therefore rather lost touch with Guy's, and on his return had to be content with the ordinary appointments and never was a Resident.

He did not join the R.A.M.C., but was specially selected and given a commission as Surgeon-Major direct into the Egyptian Army, and saw much fighting in his early years on the Nile and was specially mentioned and decorated for conspicuous bravery.

He was never prominent in games or work, but was the fortunate possessor of great charm of looks and manner; a brave man with plenty of capacity and decision and a kind and most affectionate friend. He was twice married, but leaves no children.

For long there was a laugh against Keatinge about an adventure he had with Dr. Moxon in his early years.

In those days we were much worried by quite useless attendance at lectures, some quite out of their time. We had to listen to lectures on therapeutics and materia medica whilst we were still doing anatomy and physiology and before we had got into the wards. We were told what was good for pertussis when we had not the slightest idea what it was, and we were supposed to learn the

various drugs suitable for pleurisy, bronchitis and pneumonia, which were only names to us, who did not know "tother from which." We were supposed to learn off a list of the different preparations of each drug and how they were made and the contents of each! And had to memorise the ingredients of pil. scillæ co. and decoctum sarsæ co.

Dr. Moxon was one of our ablest physicians—and there were giants in those days—and a brilliant wit. He did not conceal from us that he recognised the absurdity of the whole thing and constantly poked fun at it, telling us we had to learn the lists he gave us and that *he had learnt them up last night*, so as to tell us!

The lectures were in the early afternoon during the hot summer months, just after lunch, in the old stuffy Chemical Theatre. One day Keatinge, who was sitting in the second row, near the end, went fast asleep. Moxon spotted him and looked his way and went on with his lecture with lowered voice. The men looked that way and began to titter. Moxon held up his hand and said, "Hush, not a word!" Dead silence and Keatinge awoke blinking.

Moxon, in his blandest manner, asked him a question about what he had just been saying.

Keatinge blushed and looked awkward and stammered his ignorance.

Still more blandly, in his dangerous and most silky tone, Moxon said, "*Can't you dream it, then*!"

It was Moxon who in describing the mixtures in the Guy's *Pharmacopœia* said he was sure their authors had in mind the Guy's motto, "*Dare quam accipere.*"

Yours faithfully,

M. PARRY JONES, M.D.

5, Wellswood Park, Torquay.
August 18th, 1928.

Hospital Information, etc.

Pass List.

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Pathology (*New Regulations*)

H. G. McGregor	T. B. Pitts

* Have now completed the Examination

Appointment.

Percy Harold Ward, Principal M.O., N. Rhodesia.

Papers by Guy's Men.

W. M. Mollison, M.Ch. Fixation of Left Vocal Cord as the Result of Acute Rheumatism, *Proc. Roy. Soc. Med.*, 1928, xxi, 1573, *Sec. Laryngol.*, 73.

C. Worster Drought, M.D. (1) Charcot's Arthropathy of Both Wrists; (2) Bilateral Calcarine Thrombosis with Retention of Macular Vision; (3) Bilateral Occipital Thrombosis, *Ibid.*, 1508-1511, *Sect. Neurol.* 48-52.

—— and B. W. Crowhurst Archer, M.B. A Case of Dyspituitarism, *Ibid.*, 1513, *Ibid.*, 53.

H. Paxton Baylis. M.R.C.S., L.D.S. Case of Necrosis of the Mandible, *Ibid.*, 1619, *Sect. Odont.*, 35.

J. Lewin Payne, M.R.C.S., L.R.C.P., L.D.S. A Paste for Obtruding Sensitive Dentine, *Ibid.*, 1624, *Ibid.*, 40.

Norman Burgess, M.A., M.B., M.R.C.P. Studies of Calcium Metabolism in certain Diseases of the Skin, *Brit. Journ. of Dermat. & Syph.*, vol. xl, July, 1928, p. 279.

——and another. Pigmentation Associated with Low Blood Pressure without Suprarenal Changes, *B.M.J.* 1928, ii, 14.

Births.

HUNT.—On Thursday, August 9th, 1928, at the Anglo-American Hospital, Cairo, to Gwyneth (née Nicholas), wife of Dr. W. S. Hunt—a son (John).

GREENWOOD—On August 14th, 1928, at "Hillandale House," The Hill, Harrow, to Jeanne, wife of E. Major Greenwood, L.D.S., R.C.S. (Eng.)—a daughter.

HOOKER—On August 21st, 1928, to Constance Claire (née Wright) wife of Reginald J. Hooker, M.R.C.S., L.D.S., L.R.C.P., of 60, Grand Parade, Brighton—a daughter.

Marriage.

RUSTON—COLES.—At Plymouth, on July 28th, 1928, Reginald S. Ruston to Esmé S. Coles (Guy's 1921-24). Address: Tavy House, Mary Tavy, Tavistock, Devon.

EDS. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLII. *September 8th, 1928.* *Number 1047*

PASSIM

"THE King is dead, long live the King!" would appear to be the watchword of our daily papers. More particularly does this sentiment indicate their policy with regard to the changing of the seasons of the year. Not content to let one season pass peacefully and gracefully into another, they must call our attention to the phenomenon long before it is an accomplished fact. No sooner are we firmly established in our undervests and thick socks than we are disturbed daily by the dread warnings that Spring is upon us. Before we have really found a comfortably recumbent position on the grass —no longer a joke—of the Park we are informed that Summer is over. Looking in our morning paper for the semi-finalists of the tennis tournament at Puddlebeach, or the winner of the bowls championship at Grimville, we are greeted instead by blazing headlines which tell us that Something United is going to play Something Else Hotspurs at what we had always considered to be a winter game. This disturbs us, and we put down our paper with the furtive feeling that we ought to go and put on a waistcoat. Finally, we are forced to recognise that the seasons have become entirely artificial arrangements under the management of business men with mercenary instincts. We only know of their transition by the athletic columns of our newspapers, the presence or absence of coal in the College, and the particular style of collar affected by the nursing staff in uniform.

AND now the thing has happened again. While sunning ourselves on the theatre balcony we were told that the Rugger team is playing its first match against our traditional first-of-the-season opponents, Catford Bridge, at Honor Oak Park on September 22nd. As regards the team for this season, our prospects are mixed. While we are fortunate to be having H. Windsor Lewis, the Welsh International, coming to us, we are extremely unlucky to be losing the new captain, T. O. Garland, for the first part of the season. His value to the side during the past three seasons has been enormous, and his loss will be as great. To Garland himself, too, we extend our most sincere sympathy in his enforced inactivity and a hearty wish for his rapid recovery.

IT is most refreshing to find that the best shoulders are not worn out by bearing heavy responsibilities, and we note with pleasure that the Senior Governor of Guy's, Sir H. Cosmo Bonsor, Bart., has recently celebrated his 80th birthday. This is a great age, and yet few men can have borne greater responsibilities, for it was mainly due to Sir Cosmo's personal efforts and influence during his period as Treasurer of the Hospital—1896–1910—that funds were secured for making the Hospital what it is to-day. During that time about half-a-million of money was spent in enlargement and rebuilding. But this was only part of his activities, for he has been a Director of the Bank of England for over 40 years, he was Chairman of the one-time South-Eastern Railway, and for 15 years he was M.P. for Wimbledon. Such a record as this would surely satisfy three averagely energetic men.

WE are able to announce that the vacant Chair in Pathology at the Hospital has been filled by the appointment of Dr. Robert Donaldson, hitherto Reader and Lecturer in that subject at St. George's Hospital. Dr. Donaldson intends to take up his new duties at the end of the present month.

WE understand that the royal and ancient game of golf has been rediscovered—in the College, at least. Daily we are greeted by the sight of suspiciously long and irregular packages in the lodge. Nightly our meditations are disturbed by a

whirring through the air closely followed by a tinkle of broken glass issuing from the Pavy Gymnasium. It is even rumoured that a 9-hole course is being laid down in the heart of Bermondsey. We presume that there will be a local rule to deal with balls lost in passing vehicles. From all this we gather that there are to be golfers and yet more golfers suddenly let loose upon an unsuspecting world, and our theory is confirmed by the conversation round us during meals in the College. Words such as " slice " and " stymie " fill the air, while the word " bunker " occurs as frequently as it appears to occur on the average golf course.

And now, as we go to press, we hear that Mr. and Mrs. W. R. Morris have very kindly promised to present the Hospital with a capacious net in which would-be golfers may disport themselves to their heart's content within the very centre of the Hospital precincts. This gift will be as gratefully received by the golfing enthusiast as it will be by the non-enthusiast and the College authorities for the additional nocturnal peace and saving of electric light lamps.

▭

The Lawn Tennis Club have long been in dire need of another hard court. Two courts are useless for match play, and in a typical English summer many matches have to be scratched on account of the damp state of the grass courts. However, owing to the heavy expenses recently incurred in the drainage of the Rugby field and the erection of the " new " stand, the Clubs' Union have not been able to allow a grant towards the laying down of a new hard court. But tennis hopes are now in the ascendant, as Mr. Mollison, the present Chairman of the Clubs' Union Council and President of the Lawn Tennis Club, has very generously presented the Club with a cheque for £75 towards the cost of the new court.

We trust that the remainder of the necessary sum will be forthcoming, so that a large gap in the Clubs' Union's athletic facilities will be filled.

▭

The history of Hospital Hockey holds a tale of many wanderings. Difficulties at Kidbrooke in the old days were undoubtedly not less than those at Elmers End more recently, and we hope that the new ground at Edgware may indeed prove the final solution. It will be something of a novelty for a Guy's team to travel north to play home games, our associations in the past having been so definitely in the opposite direction owing to the convenience of transport from London Bridge. We understand that the journey time by Tube to the new ground is shorter than that to Elmers End, and the service more frequent, both factors that should be distinctly beneficial to the digestions of those players whose duties often compe them to take a hurried lunch.

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The tacit acceptance in Turkey of an X-ray demonstration of unusually complicated cerebral convolutions as evidence of intelligence confirms us in our decision to avoid Mr. Worth's department in future lest the totally inadequate pattern on the surface of our own cerebral hemispheres be exposed to the public gaze. We suppose the time will come when applications for one's first post will have to be accompanied by three recent skiagrams.

▭

The ancient bicycles sacred to the Extern Charity seem to bear up bravely under their burden of brand new black bags with aggressively golden letters. It is to be hoped that the internal arrangements are in keeping with the elegant exterior, so that there is less danger than of old of soaking the swabs in ergot and leaving the mother a stiff draught of lysol.

Surgery in Exophthalmic Goitre.

Clinical Lecture by Mr. E. G. Slesinger.

GENTLEMEN,—I should like to preface my remarks to you to-day on the subject of surgery in primary Graves disease by expressing my convictions that the future treatment of this condition will be medical or, more probably, biochemical, and to assure you that no one is more sensible of the unsoundness of removal of any organ as a method of treatment than I am. In reality, we know very little about exophthalmic goitre other than its symptoms, but just as surely as it is not primarily a disease of the thyroid gland, so also at the present time no treatment other than removal of a part of the thyroid gland can materially alter its course or prognosis. There would, I think, be a general consensus of opinion that as things are to-day surgery supplies the only adequate treatment if it were not for the question of mortality, and it is mainly to point out to you how the mortality after operation can be and is prevented that I propose to confine my remarks to-day.

First of all I want to make it clear to you just what the condition is that we are discussing. By exophthalmic goitre, or, as I would prefer to call

it, primary Graves disease, we mean that symptom complex of exophthalmos, tachycardia, muscular weakness and nervous changes associated with a goitre due to hyperplasia of the secreting cells of the thyroid and marked by absence of colloid storage. It is a condition in which there are associated changes in other glands and organs in the body and one which, as I have mentioned, does not in all probability originate in the thyroid. We call it primary Graves disease in contradistinction to a similar, but in reality quite different, condition termed secondary Graves disease. In that condition we have a goitre, usually a nodular goitre of long standing, which has given rise to no general symptoms. After a period of many years most of the symptoms of exophthalmic goitre may develop, except that exophthalmos itself is rare and the cardiac changes are rather different. Here we are dealing with a local thyroid condition only. The pre-existing goitre has acted as a local irritant, and has produced changes in the rest of the gland similar in kind though not in degree to those produced —we know not how—in primary Graves disease or true exophthalmic goitre. Surgery here is the true and logical method of cure, and I do not propose to deal further with this question to-day other than to make it clear to you that these cases of secondary Graves disease or, as they are sometimes badly termed, " Plummer's toxic adenoma," are not exposed to the same risks nor governed by the same surgical rules as those with which we are dealing of primary Graves disease.

Having already pointed out that in my view exophthalmic goitre is not primarily a disease of the thyroid gland, and I hope we may discuss the evidence for that view together some day, it necessarily follows that we cannot expect to cure the condition by thyroidectomy. We can, however, hope to gain a very great deal by surgical treatment. We can save life in a proportion of cases by cutting short a rapid intoxication, which under every other method of treatment would inevitably progress to death. In a much larger number of cases we can materially lessen the severity of all the symptoms and by so doing and enabling the patient to gain in weight and to recover her emotional poise we can greatly lessen the period of invalidism. Finally, and this is an important argument in favour of *early* surgical intervention, exophthalmic goitre as a result of the intoxication which it produces gives rise to a group of secondary disturbances such as myocardial degeneration, etc., which are themselves disabling and which can and should be prevented by surgical treatment.

No one who has seen any number of operated cases will deny the results which surgery can show in this condition, and to that extent the surgeon no longer has a case to prove. What still remains to be proved, however, at any rate in this country, because in America it has been proved and generally accepted long ago, is that surgical treatment can be, and indeed should be, quite as safe if not even safer than medical treatment. The actual medical mortality is difficult to estimate fairly, as one must naturally exclude cases coming to the physician when they are all but moribund. Many authors have published figures based on large series of cases, and the average mortality they got is somewhere between 10 and 15 per cent. In the hands of a surgeon who is used to dealing with this complaint that figure should certainly be well under 5 per cent., at any rate as far as female cases, which, of course, constitute the great majority, are concerned.

In order, however, that such a desirable result may be obtained certain points must be very carefully considered in each case, and of these by far the most important are: Firstly, when to operate; secondly, what operation to perform; and, lastly, how to perform it.

Firstly, to consider the question of when to operate.

Exophthalmic goitre during its course is by no means a disease of uniform severity, but is marked by a series of exacerbations of the intoxication known as crises.

As a general rule, from the onset the symptoms increase steadily for a period of from eight to nine months, the height of the curve being marked by an increase in the severity of all symptoms and by the onset of some, such as diarrhœa, vomiting or amenorrhœa, previously absent. After a varying period of weeks some improvement begins, and though the patient does not reach normal she becomes markedly better. Loss of weight ceases and may be replaced by a gain, diarrhœa and vomiting stop and the menses may appear again. This improvement invariably follows the crisis; as the increase of symptoms which precedes the crisis has frequently led to the trial of new remedies it must be discounted in estimating their effect. After the crisis the general condition of the patient, as we have seen, improves, but if the degree of intoxication is represented by a graph the curve will be found to run along at a higher level after the crisis than before it, the difference representing the degree of permanent damage which the patient's tissues have suffered as a result of the crisis.

Further crises with subsequent improvement occur during the course of the disease and at

varying intervals. These are almost always less severe than the first one, but each leaves the patient's general condition a little worse than it was before.

Operation should never be undertaken during a crisis, as it is then that fatalities are most likely to occur. The treatment during the crisis may be medical and symptomatic, and operation should be postponed until all symptoms are well on the down grade. That being the case it becomes of the greatest importance, when seeing a case of primary Graves disease for the first time, to inquire most carefully into the history. The onset of this condition is insidious, and the two conditions on which the patient's attention is most easily focussed are the goitre and the exophthalmos, both of which are somewhat variable in the time of their appearance, and neither of which are initial symptoms. Roughly, order of onset of the most striking symptoms of exophthalmic goitre is: (1) Cerebral stimulation, (2) vaso-motor disturbances in the skin, (3) tremor, (4) mental irritability, (5) tachycardia, (6) loss of muscular strength, (7) goitre, (8) cardiac insufficiency, (9) exophthalmos, (10) diarrhœa, (11) vomiting.

It is therefore plain that a careful history will often unearth the fact that the disease has been progressing for some time before the patient's attention was arrested by the development of a goitre or exophthalmos, and that she may in fact be rapidly approaching her first crisis, although according to the story she will give you at first she has only been suffering from exophthalmic goitre for a month or two.

Arbitrarily, it is wise to refuse to operate within two months of the maximum severity of symptoms. It is unfortunately the case that the surgeon is very frequently asked to see the case at the period of crisis. The increasing severity of symptoms induces distrust of the medical measures which are being employed, and the surgeon is called in as an alternative. Nevertheless, except in very exceptional cases, safety lies in waiting, and in this disease of all others it is the surgeon who must accept the responsibility of deciding *when* operation is to take place. During the first few months of the disease operation is seldom indicated, because there is no method of telling what the severity of the attack is going to be, and when a moderate degree of severity only has been reached symptoms may recede and not again become severe. In such a case operation is, of course, not indicated. On the other hand, in face of a steady increase in severity, the sooner within reason that operation is carried out, the shorter will be the duration of the illness and the less will be the permanent effects. Diarrhœa, vomiting, and rapid loss of weight definitely contra-indicate operation, since they indicate the near approach of a crisis and should lead to medical treatment for a time until the danger period is passed.

On the other hand, the most favourable single indication of safety is the reappearance of the menses after a varying period of amenorrhœa. Amenorrhœa is a far more frequent result of severe exophthalmic goitre than is generally taught, and, in my opinion, the reappearance of the menses in these cases is of the utmost prognostic significance. The most usual time for the patient to come to the surgeon is at or about the period of the first crisis. Hence, it is important to take a careful review of the history and to treat the case long enough to secure a proper orientation of the stage of the disease which is being dealt with and to delay operation until at least two months from the time of maximum severity of symptoms, if the first crisis is found already to have occurred.

Apart from this question of orientation the most important question that requires consideration before operation is the state of the patient's heart. In that connection it is well to remember what the cardiac changes found in exophthalmic goitre are. The first and most common sign is tachycardia. It is characterised by long and continued rapid action of the heart, the rate of which is the same in sleep as during the day, and which, though it may vary with the condition of the patient, usually remains rapid with less change at each counting over long periods than in any other complaint. In addition to the rate the intensity of the beat is increased and the heart can be felt and sometimes even heard bounding in the chest. Palpitation is the symptom complained of by the patient, and a very distressing one it is, the interesting point being that it bears no direct relationship to the rapidity of the heart's action.

After a period of merely accelerated rate the true thyrotoxic heart condition is found. Here there is a thrill and a diffuse bounding apex beat. There is often considerable increase in the heart volume both by percussion and by X-rays, which is due mainly to dilatation affecting the left side, and which varies rapidly with the general condition of the patient. There is usually a systolic murmur over the base and capillary pulsation is present. After a varying period in this state the conductivity of the bundle of His is impaired and auricular fibrillation may occur.

Auricular fibrillation may be continuous or it may be paroxysmal and, on the whole, is of less grave significance than in any other complaint. Quinidine may be able to restore the heart to

normal rhythm, but it sometimes fails to do so, and in the paroxysmal cases it is usual for fibrillation to occur when the excitement of an impending operation reaches fruition. After operation normal rhythm may be restored, but if fibrillation persists quinidine will often succeed now where it had failed in the pre-operative state.

I cannot sufficiently stress the help that I have received from Dr. Campbell and the Electro-Cardiograph Department in estimating the risk which any given state of cardiac dysfunction entails when operation is to be considered, and though I am now gladly able to transfer a deal of responsibility to his shoulders, it still remains important for the surgeon to be able to form his own opinion on the cardiac condition. Theoretically, what is of most importance is the degree of myocardial damage, and in the absence of an electro-cardiogram the greatest reliance can be placed on the amount of dilatation, which must, however, be estimated with the patient up and about. Dilatation of more than $1\frac{1}{2}$ inches is an operative contra-indication and dilatation of 1 inch means that the patient requires the minimum of interference in the first place. Fibrillation in itself is, I think, a definite indication that operation must be undertaken at the earliest possible moment, and there are few patients with this condition whom the cardiologist cannot get into a fit state for surgery in two or three weeks.

If I may sum up the important points in regard to the *time* of operation, I would say :—

(1) Operation is seldom advisable in the first six months. The patient may abort her attacks.

(2) Never operate within two months of the first crisis.

(3) Choose the down grade of severity of symptoms rather than the up grade.

(4) Always have an exact perception of the stage in the disease that your particular patient has reached.

(5) Have the opinion of a cardiologist who is *an expert in thyroid heart conditions* and, if possible, an electro-cardiogram before operating.

What Operation Should be Performed?

Next in importance after when to operate comes the question what is to be done. This is of moment both in regard to mortality and in regard to the results to be obtained. Many so-called surgical failures are cases in which not enough of the thyroid has been removed, and in those cases it is not fair to put blame on the surgical principle, which properly attaches to the detail of technique.

Generally speaking, in a case of primary Graves disease of moderate severity the best result cannot be obtained unless at least four-fifths of the total gland substance is removed, and in more severe cases not more than one-sixth of the total gland should be left.

In considering the surgical plan to be followed in any particular case, methods have been much modified of recent years by the use of Lugol's solution of iodine as a pre-operative method.

Roughly, we can say that Lugol's solution in proper dosage will produce just about the same amount of amelioration as would ligature of one pole of the thyroid, and since its introduction that operation of ligature, which was formerly so valuable in making the dangerous case safe for further surgery, has been largely superseded.

The question that remains in most cases is: Should the operation be performed as a one-stage thyroidectomy or as a two-stage one? The probable post-operative reaction must be visualised in any given case and compared with the existing severity of symptoms. If it appears possible that the severity of the reaction will carry the patient over the borderline of safety a two-stage operation must be performed. I confess that I am rather conservative in this matter and as a rough guide I generally try to picture every symptom as increased by 50 per cent. as the possible result of post-operative reaction, and if that picture shows me a possible death I do two operations.

I am not at all sure, however, that that view is quite correct, since it is only reasonable to suppose that the post-operative reactions in a patient on whom the whole operation has been done and who has only one-sixth of the gland left, may be less than that in a patient who has half her thyroid left. Professor Wilkie tells me that he is tending more and more to doing the operation in one stage, and finds the reaction less, and it is quite possible that the future will prove him to be right.

Nevertheless, it is undoubtedly better to err on the side of safety and never to do more at one sitting than you are certain the patient can stand. A good deal must depend on the difficulties of the operation. Exophthalmic goitre patients stand loss of blood very badly, and nowhere else in surgery is speed, provided it is accompanied by no lack of care, so important.

It is an interesting fact that these patients feel so much better after the first operation that they rarely, if ever, withhold their consent to the second, a fact which in itself is eloquent testimony to the help which surgery can give.

Certain questions of technique in the operation are of importance, chief of which, as we have already seen, are the avoidance of much blood loss and speed in operating.

More important than anything else, however, is gentleness in handling, and, in my view, the

main advantage of local anæsthesia, which has had so many advocates in goitre surgery, is the gentleness it forces on the operator.

When, however, that lesson has been learnt, the advantages of local anæsthesia alone would seem to be outweighed by the additional mental strain put upon the patient.

Chloroform is definitely contra-indicated, and whatever anæsthetic is used the main consideration is that the patient should be lightly anæsthetised throughout. For that reason intratracheal anæsthesia is undesirable in that a depth sufficient to permit the catheterisation of the trachea should never be attained in exophthalmic goitre.

Of far greater importance than the anæsthetic is the anæsthetist, and in the large number of cases which Dr. Marston has anæsthetised for me I have never had a moment's anxiety attributable to the anæsthetic.

Open ether, gas, oxygen, ether, gas oxygen, and gas oxygen plus a local anæsthetic, are all satisfactory in the proper hands, and at present our preference is for the latter combination. Finally, I would stress the bearing that the psychology of these patients has on the results of treatment. It is most important for the surgeon to see and talk to the patient frequently before operation. The frame of mind to be aimed at in the patient is an urgent desire to have the operation performed, and often a little judicious delay, combined with assurance from the surgeon, or even better from other patients, of the relief operation will afford, will bring the patient to urging that it should be hurried on. When that attitude of mind has been achieved, and achieved at the right period in the disease, the patient has been made safe for the surgeon, and surgery is able to show the dramatic results that it can produce in cases of exophthalmic goitre.

Tachycardia.

A Lecture given by Dr. Campbell, at Guy's Hospital, on Friday, July 6th, 1928.

GENTLEMEN,—There are two main symptoms which point to a diseased heart. The more important is breathlessness, and in a patient with this complaint without any obvious cause, such as disease of the lungs or anæmia, the heart is always suspect. The other is pain—not precordial pain, which is rarely due to the heart, though the patient often thinks so—but pain in the middle of the sternum, sometimes spreading to the left arm, as in classical angina.

The signs of heart disease is familiar to you all—some in themselves suffice for diagnosis, some are only suggestive. Tachycardia, which I am going to speak about to-day, comes between these two groups of signs and symptoms. It may be a symptom of which the patient complains; he notices his heart going fast and is worried because of a sensation of palpitation, or because he thinks it ought not to be going so fast. Or it may be a sign observed by the doctor.

When you are in practice you will see a good many patients with tachycardia, and may wonder what conclusions you can draw from it. If there is obvious heart disease it is generally easy, but where you do not find much else it is more difficult to decide how much it means. It is not one of those signs like a diastolic murmur, which makes the diagnosis certain, but it has to be taken into account. Sometimes it is very important, sometimes of no import; sometimes it is due to organic disease and sometimes it is not.

The Rate of the Heart in Health—

I should like to mention some points about the heart rate in health and its normal limits. You know that the rate depends mainly on the nervous control, and, in disease, on which part of the heart is responsible for its rhythm. In health the sino-auricular node sets the rhythm, and the actual rate depends on how far it is controlled by the vagus and sympathetic nerves. In sudden changes of rate these are specially important, and the commonest effect of either is to increase the heart rate, either by an increase of sympathetic or a decrease of vagal tone. A slow heart from increased vagal control is also frequently seen, but we are not familiar with a slow heart from decreased sympathetic control, except perhaps in myxœdema. Temperature and the products of metabolism during exercise are other factors increasing the rate.

The sino-auricular node controls the heart rate normally because it produces impulses at a more rapid rate than any other part. If its activity is cut out there is a pause, and then the auriculo-ventricular node takes control, because it then has the most rapid rhythm. Similarly, if some other part starts producing impulses more quickly it will control the whole heart; this happens in auricular flutter or paroxysmal tachycardia.

In health other things which have to be taken into account for their influence on the rate are weight, size and training. On the whole, you will

find the rate faster in small people and slower in large people; faster in those who are untrained or unfit and slower in those who are trained.

It is very difficult to give absolute figures above which you can say a heart is abnormal, because nervous control is so active that you can rarely be sure it is eliminated. But as it is useful to have some figures, you may take 50 to 80, or perhaps 90, for men. About those figures you hardly ever need have any doubt; it is a very wide range, but it is quite likely that there are people in this room with both extremes of that rate. In women the pulse rate is generally about 10 beats faster, 60 to 90 or 100. After exertion, in hot weather, or when the patient is nervous, it may be difficult to get the pulse down to these limits, but often it is easier if he does not realise that the rate is being counted.

If in any patient you find the rate faster than this you should notice whether it is a constant feature or whether it is due to temporary excitement. If you are seeing him regularly you may solve this at once. If not, and you see him again after an interval, perhaps with rheumatic fever or some infection, it will be useful to know what the rate was before.

The effect of training is important, and has been recognised for a long time. The man in training has a slow pulse because of increased vagal control. The advantage it gives is that before the heart reaches its optimum rate, 160 to 180, the amount of blood circulating each minute can be increased more than in the man with a faster pulse at rest. Sometimes a rapid pulse means a low output per beat; this is probably true for those in bad training. Sometimes it means an increase in the circulation rate, *e.g.*, in exophthalmic goitre.

Causes of Tachycardia—

What are the pathological conditions most likely to give rise to tachycardia? There are various groups which I wish to take, with an illustration of each—some with a clearly defined, and some with a more doubtful etiology. Cases associated with infection, with heart failure, and with hyperthyroidism form three well marked groups. Other cases occur after infections, and are apparently due to nervous effects and lack of training rather than to the direct influence of the infection. Others are apparently due to nervous control only.

In all these the tachycardia is intrinsically of the same type. Each beat originates in the sino-auricular node and is transmitted to the auricle and ventricle in the usual way. The electrocardiogram therefore gives no direct help in diagnosis, though it may do so indirectly. Thus, with tachycardia due to a rheumatic infection there may also be slight heart block as shown by a long P—R interval from the effect on the A—V bundle, or with heart failure there may be other signs of myocardial damage.

In other groups—paroxysmal tachycardia and flutter—the electrocardiogram is pathognomic, though the diagnosis can generally be reached without it. These form the main groups of *regular* tachycardia, the only ones with which we are concerned; but from the practical point of view it would be incomplete not to mention certain cases of fibrillation, in which the irregularity is not easy to observe clinically.

(*A*) *Tachycardia Due to Infection—*

Infection is perhaps the most common cause of tachycardia, but then it rarely gives rise to symptoms. A rapid pulse in a patient with pyrexia need not influence you, unless it be excessive, nor does it indicate heart disease. A rapid pulse without obvious cause should suggest infection. Sometimes it may be a reason for suspecting tubercle; in children it may mean a rheumatic infection, or it may be hidden sepsis, the site of which has not yet been found.

In rheumatic and tuberculous patients the pulse rate may be most useful. Supposing you find signs in the chest and wonder how far these indicate active disease: if the pulse rate is 70 the infection is probably quiescent and certainly is not giving rise to general toxæmia; on the other hand, if the pulse is 120 there is probably active toxæmia. The real temperature is, of course, a better guide, but at a single visit when the patient may be cold and not in bed it can be deceptive. Under these conditions the pulse rate may be a more useful criterion.

Case I illustrates the importance of tachycardia in the diagnosis of tuberculosis. A delicate girl, aged 14, complained of lassitude, vague pains and loss of weight. As she had had chorea five years before and then had a pulse rate 100–120, she was diagnosed sub-acute rheumatism. She was treated with salicylates for six months, but was then, unfortunately, lost sight of. A year later, when I saw her for the first time, she had a bad cough and active disease in both lungs. Tubercle bacilli were found in the sputum and she died after a few months. As the heart was normal and the changes in the lungs of long standing, her symptoms for many years had probably been due to tuberculous toxæmia.

In rheumatic children tachycardia may be an important sign of an active infection. You know that often the pains do not last long, even if the patient is untreated; with treatment they disappear very quickly. Some method of finding how long there is active infection is badly needed.

As long as there is temperature there is no doubt, but the fall of temperature is not enough to warrant a decision that the infection is finished, and that no harm will be done by a return to uncontrolled activity. A rapid heart rate may still indicate some myocardial infection.

That is a problem you will have to deal with again and again, and often it has to be solved here as a compromise between the ideal and the urgent need for hospital beds. You can see the ideal in a special hospital for rheumatic children, such as that at Carshalton. It is very striking how well the children look when they come back, but even then it is disappointing how many of them relapse after their return home.

I would like to lay down a definite rule for your guidance. It may not be a rule one is always going to follow, for it is difficult to get evidence as to the best procedure, but you can take it as a working guide until you have had experience to change it. As long as a rheumatic child is pyrexial, and for a month after, he ought to have complete rest. Then, if the pulse has come down, you can start graduated activity. If the pulse is still much raised at the end of that period you must give a longer period of complete rest. If after six months the pulse is still much raised you have got to accept that as the best possible and start with graduated exercises in the same way.

Case II illustrates the fall of pulse rate when the rest was sufficiently prolonged. He was admitted for his second attack of rheumatic fever when 15 years old. It was a severe attack with pyrexia to 104 for several days, with consolidation at the base of the lung—? embolism—with purpura and with acute nephritis. Blood cultures remained sterile, but he may have had infective endocarditis. Although he was rested in hospital for three months with a normal temperature, his pulse was still 100–120. Fortunately, his mother carried out instructions carefully and he was in bed at home for another three months, when his pulse rate had fallen to 72. It has remained slow for two years, and though he has an enlarged heart with aortic incompetence and mitral stenosis he is able to work and keen to play football. No doubt the complete rest was partly responsible for his good recovery.

(B) Tachycardia with Heart Failure—

When the heart muscle is weak and unable to expel the usual amount of blood, one would expect an increase of rate to maintain the circulation. Although heart failure is often seen with a normal pulse rate, in other cases tachycardia is a sign of early failure, as shown by Cases III and IV.

A young woman with mitral stenosis after rheumatic fever had been getting short of breath for four years. She became worse during pregnancy, when she had a pulse of 108 and œdema of her feet. In spite of rest the signs of failure increased and her pulse rose to 140. It became necessary to terminate pregnancy, after which she improved. Three years later, though still short of breath, she is in good health with a pulse of about 90 (see Fig. I).

Case IV, aged 48, was incapacitated by breathlessness and mid-sternal pain on exertion. There were early signs of failure, and the pulse at first was so consistently 132 that auricular flutter had to be excluded. But after a long rest the rate showed a little decrease, and the electrocardiogram showed simple tachycardia. The cause of his heart failure was a blood pressure of 240/160; with rest and digitalis these have come down to 180/105 and the pulse to 80, with great relief of his symptoms.

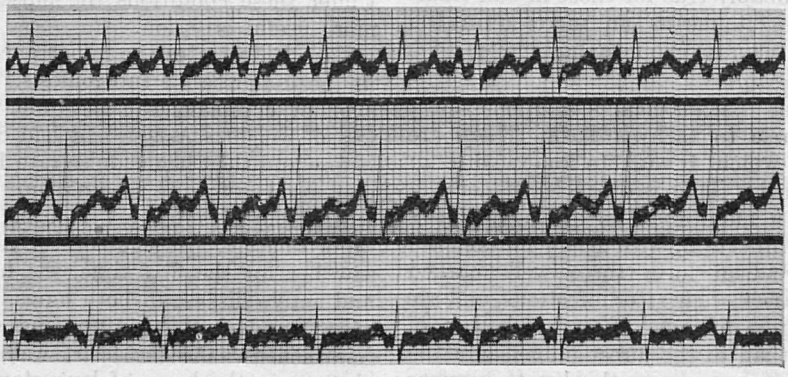

FIG. I. Electro-cardiogram of Case III, showing simple tachycardia with large P waves in Lead II suggestive of mitral stenosis.

(C) *Tachycardia with Hyperthyroidism*—

A rapid pulse is the most important sign of hyperthyroidism, and frequently the palpitation to which it gives rise is one of the most troublesome symptoms. You are in the habit of thinking of this possibility in all unexplained cases of tachycardia, and I need not do anything more than emphasise its frequency and importance (see Case IX and Fig. IVb).

(D) *Tachycardia Due to Nervous Causes*—

The onset of tachycardia in excitement is so familiar to all that it is liable to be forgotten. In a delightful work by one of the Governors of this Hospital the heroine says: "He looked so grim and determined that my heart began to thump in a perfectly fatuous way." But the nervous patient who notices this palpitation is often convinced that it is due to heart disease, and a visit to the doctor is quite enough to reproduce it.

Case V, an unmarried woman of 36, was sent up by her doctor, who said that for three months he had never seen her pulse less than 140. She complained of pain under the left breast and of feeling too tired to work. This last symptom is rarely due to heart disease unless the patient is obviously breathless, so it was at once doubtful if her symptoms were of cardiac origin. With rest we got her pulse rate down to 120. Physical examination revealed no abnormality. The blood pressure was normal. The electrocardiogram was normal. The Wassermann reaction was negative. She had a slightly full thyroid, but no signs of hyperthyroidism. She was a very fidgety and nervous woman, who had prolonged her disability by worry. With reassurance and progressive exercises she should get well.

(E) *Tachycardia after Infection, Maintained by Nervous Causes*—

So far the groups which have been described are well recognised, and their etiology and pathology is more or less understood. This group is a common one, but the explanation is not so certain. The doctor who sent this patient was interested in this problem because he found it such a common and difficult one.

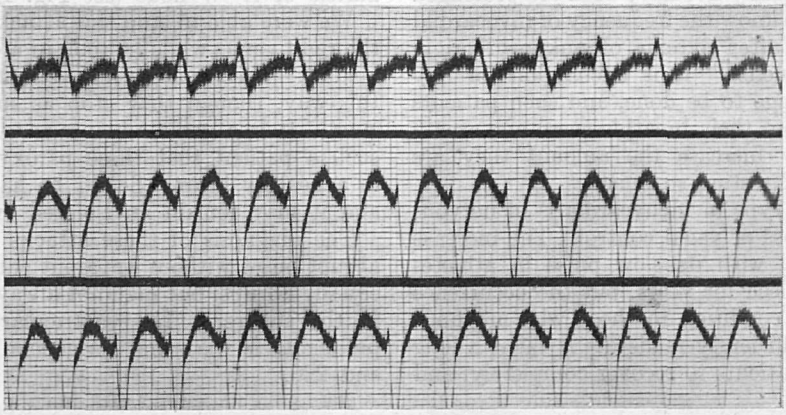

FIG. II. Electro-cardiograms of paroxysmal tachycardia (rate 176; auricular type) from a man of 60 (similar type observed in Case VII).

Case VI was a young schoolmistress who had always enjoyed good health. Two years ago she was in hospital for three months for diphtheria. She kept fairly well after, and yet the pulse remained fast. One year ago she had a series of sore throats with general lassitude and weakness. There was a pulse of about 140 with low pyrexia and inflamed tonsils. As there was no improvement the tonsils were removed, but the fever and tachycardia continued for two months more. After the temperature became normal she was treated with a further two months' rest, followed by a slow convalescence. She had then been in bed for the greater part of six months, and during the next two months, at the end of which time I saw her, she was still encouraged to rest and was hardly walking half a mile a day.

She complained of weakness, fatigue and attacks of palpitation on exertion. The pulse rate was 110–120, but the normal size of her heart without any murmurs was against any rheumatic infection; I could find no evidence of tuberculosis or, indeed, of any organic disease. I advised that she should go away for a holiday and rapidly increase her exercise. Now, after three months, she is much better and is restarting work, though the pulse rate is still fast.

Was it necessary for her convalescence to be so long? Was there danger of her heart being

damaged permanently? At first no doubt the tachycardia was due to the pyrexia and infection, but later, I think, it was due to prolonged inactivity from her unfortunate long illnesses. Had she suffered from rheumatic fever the convalescence would certainly not have been too prolonged because there we know the frequency of myocardial infection. But after pyrexia of unknown origin and after "influenza" it is uncommon for any permanent damage to be done, and such patients only recover from their breathlessness and weakness when they increase the amount they are doing instead of resting so much.

I believe this type of tachycardia is of nervous origin, due to loss of vagal control. The increase of vagal control with its slow pulse in athletes has been recognised for years, but the occurrence of the opposite condition in those who are unfit has not been sufficiently realised. It takes a long time for these patients to recover completely, and they will only do so by training. You will most often meet this condition after "influenza" or after long pyrexial attacks, as in this patient.

(*F*) *Paroxysmal Tachycardia*—

In all the groups considered so far the tachycardia arises in the sino-auricular node. The electrocardiogram gives no decisive diagnosis, though it may help incidentally by revealing some other change. In the other groups now to be mentioned the electrocardiogram is distinctive. The diagnosis, however, can generally be made without this aid.

Case VII was a healthy young man with no history of heart disease. One day when playing chess he felt his heart start racing at a very rapid rate. It came on quite suddenly, and though he felt very uncomfortable and distressed he was able to walk about. When I saw him half an hour later the heart rate was 176, but no other abnormality could be found. The electrocardiogram showed paroxysmal tachycardia arising in the auricle or A—V node (see Fig. II).

We were able to stop this attack by pressure on the right vagus while he took in a deep breath and held it. Many paroxysms cannot be stopped in this way, though they stop as suddenly as they start. It is a great advantage to be able to tell such a patient that these paroxysms may occur in a healthy heart. So far he has had no more, and it may remain an isolated event in his life.

The diagnosis of these attacks depends on the abrupt onset without apparent cause. The end is equally abrupt, but may not always be so obvious to the sufferer. The ventricular rate—and the pulse rate is the same—is generally between 160 and 220.

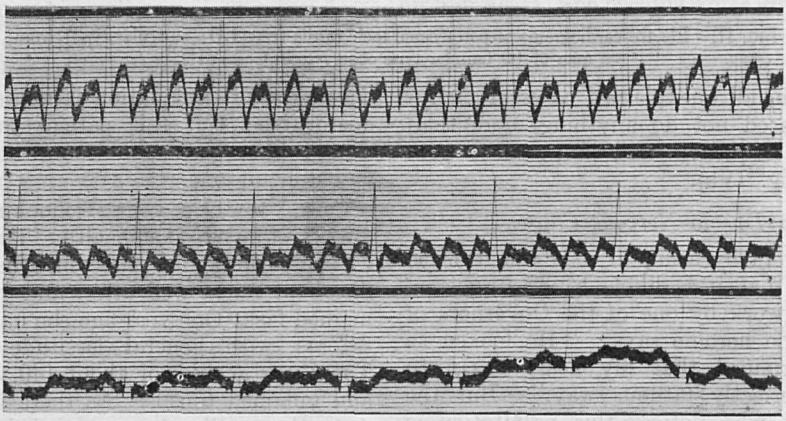

FIG. III. Electro-cardiograms of Case VIII (Lead II only; Time marked not recorded).
(*a*) Upper record: October 11th—Auricular flutter with 2:1 heart block (rate of auricle 336, ventricle 168).
(*b*) Middle record: October 14th—Auricular flutter with 4:1 heart block (rate of auricle 336, ventricle 84).
(*c*) Lower record: October 21st—Normal rhythm after its restoration (rate 84).

When these attacks are once looked for they are found not to be uncommon. But if after taking the history you remain in doubt it was probably not paroxysmal tachycardia. Indigestion may be the stimulus for attacks, as for extra systoles. Apart from the minority of patients, in whom the heart appears normal, it occurs most often in young men with rheumatic hearts and in older men with myocardial disease.

(*G*) *Auricular Flutter*—

Auricular flutter is closely allied to fibrillation, but is much less common. The auricular rate is generally 240–360, but there is practically always some degree of heart block. Most often there is 2:1 heart block, so that the ventricular rate is

120–180. In two-thirds of the cases the pulse is irregular, but in the remainder it is irregular owing to a varying degree of heart block; such cases closely simulate auricular fibrillation.

Case VIII was a young man who had recently been playing games without much breathlessness, though two years before he had coughed up some blood. Eight days before admission he spent a restless, uncomfortable night, but just managed to carry on as a clerk next day, feeling very weak and breathless. Three days later he had to take to his bed and cough and orthopnœa were noted as symptoms.

With fever and signs in the lungs and a history of hæmoptysis he was thought to have phthisis. The pulse rate, however, remained too fast and regular for that explanation, and the electrocardiogram showed flutter with 2 : 1 block (see Fig. III*a*). Digitalis quickly produced 4 : 1 block, with a slow regular pulse (Fig. III*b*). It was continued until fibrillation developed, when on stopping it, normal rhythm returned as it not infrequently does under this treatment. (Fig. III*c*) When the heart became slower, signs of mitral stenosis were revealed and explained the hæmoptysis and signs in the lungs. He left hospital feeling well.

The clinical diagnosis of flutter depends mainly on a rapid regular pulse, which does not get faster when the patient exercises, or slower when he lies down and rests. Otherwise the signs and symptoms are much the same as in fibrillation. It occurs most commonly in men after middle life with arterial or myocardial disease, and also in rheumatic hearts. I know no good reason why paroxysmal tachycardia and flutter occur so much more often in men than in women.

Though I have confined this lecture to regular tachycardia, it would be incomplete to leave out those cases of tachycardia in which the irregularity is not readily detected clinically. A few patients with auricular fibrillation belong to this group, especially those who have exophthalmic goitre or arteriosclerosis. If the rate is not too fast the irregularity can always be easily detected, and yet when it is fast it may be difficult.

Case IX, aged 50, had suffered from exophthalmic goitre for four years. Usually her pulse rate was 120–140 and quite regular, but from time to time she had attacks, generally lasting for about a day, when she had violent palpitation with a heart rate of about 210. It was not easy to be sure that it was irregular, but the electrocardiogram (Fig. IV*a*) showed that it was paroxysmal auricular fibrillation. On most occasions her heart is quite regular and the electrocardiogram shows normal rhythm with the simple tachycardia of hyperthyroidism (Fig. IV*b*). She has recently had a large part of her thyroid removed, and still, in spite of this and of quinidine treatment, paroxysms arise from time to time. But as yet it is too soon after her operation to say that this combined treatment may not succeed in stopping them.

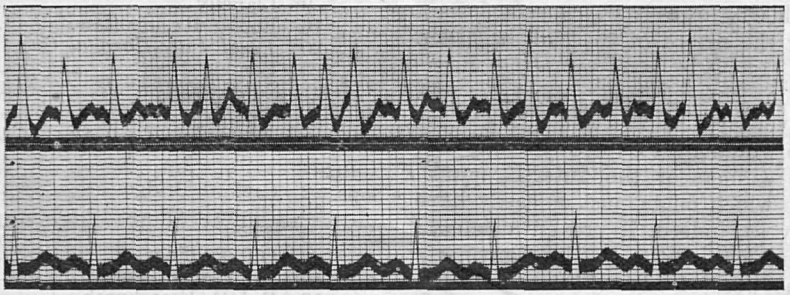

FIG. IV. Electro-cardiograms of Case IX (Lead II only).
(*a*) Upper record: during an attack of paroxysmal auricular fibrillation, rate about 208.
(*b*) Lower record: with simple tachycardia due to hyperthyroidism, rate 140.

There are so many causes for tachycardia that I have only been able to review a few of them shortly. It is sometimes useful in diagnosis and sometimes merely troublesome, because it is difficult to be sure that it is of no intrinsic importance. It is so common that you will meet plenty of cases to provide you with examples of these different groups.

Pass List.

July, 1923

DIPLOMA IN TROPICAL MEDICINE AND HYGIENE

S. S. Crosse H. Kaitz J. D. S. Thomas

Change of Address.

M. Parry-Jones, M.D., 5, Wellswood Park, Torquay.
C. de W. Gibb, F.R.C.S., 31, Upper Bedford Place, W.C.1.
E. E. Neser, M.B., B.S., Klerksdorp, Transvaal, South Africa.
P. H. Ward, P.M.O., Livingstone, N. Rhodesia.

Correspondence.

The Coming "Soccer" Season.

DEAR SIR,—I, in common with other readers of the latest issue of the GAZETTE, have been struck by a passage in "Passim," namely: "We are curious to see if the coming season will produce a revival in a game (Soccer) which appears to be losing popularity in our own particular circle at any rate."

While not enjoying the immense popularity at present bestowed upon Rugger, and once enjoyed by Soccer at this Hospital, the latter game flourishes with no mean success; regularly each season two XI's take the field. The 1st XI each winter meets the leading Old Boys' sides such as the Old Carthusians, Old Malvernians, etc., also the H.A.C. and other well known club sides. Against these teams Guy's holds its own.

Since the war the record of the club has been good, and the 1st XI have won the Inter-Hospitals' Cup in 1920–21–23–24, 1926–27, and the London University Cup in 1920, 1924–25–26, Last year, while winning no Cup, Guy's only lost to U.C.H., the winners of the Inter-Hospitals' Cup, in a game which might just as easily have proved a victory as, indeed, it proved a defeat; they were also finalists in the London University Cup. Those who were of the 250 who saw the "Hospital Cup" won in 1927, will agree that the Hospital can play good football. At the same time the 2nd XI have won the Junior Hospital Cup in 1920, 1925, 1927, 1928, and last season were a particularly good side.

At a time when the Club is as well supported as at present, plays good fixtures and supplies a large part of the strength of the United Hospitals' Club, I feel a wrong impression is conveyed by your words, but perhaps, sir, by "revival" you only intended to wish the Club increased success, which is ever welcome.

Yours truly,
J. B. BLAIKLEY,
Vice-Capt., G.H.A.F.C.

Guy's Hospital, S.E.1.
August 29th, 1928.

["Our intentions were none other."—ED.]

Sport.

Rugby Fixture Lists.

1st XV.

1928			
Sept. 22	Catford Bridge	.....	Home
,, 29	Coventry	.....	Away
Oct. 6	Portsmouth Services	.....	Home
,, 13	Gloucester	.....	Away
,, 20	Bristol	.....	Home
,, 27	Harlequins	.....	Home
Nov. 3	Northampton	.....	Home
,, 7	Cambridge	.....	Home
,, 10	Coventry	.....	Home
,, 17	Richmond	.....	Away
,, 24	Cardiff	.....	Away
Dec. 1	Old Leysians	.....	Home
,, 8	Aberavon	.....	Home
,, 15	Old Alleynians	.....	Away
,, 19	Portsmouth Services	.....	Away
,, 22	London Scottish	.....	Away
,, 29	Christmas Vacation		
1929			
Jan. 5	O.M.T.'s	.....	Away
,, 12	U.C.S. Old Boys	.....	Home
,, 19	Birkenhead Park	.....	Away
,, 23	R.N.C.	.....	Home
,, 26	Gloucester	.....	Home
Feb. 2	Rosslyn Park	.....	Away
,, 6	Cambridge	.....	Away
,, 9	Aberavon	.....	Away
,, 14	*2nd Round Inter-Hospital Cup*	.....	
,, 16	Old Blues	.....	Home
,, 23	Birkenhead Park	.....	Home
Mar. 2	Bristol	.....	Away
,, 5	*Semi-Final Inter-Hospital Cup*	.....	
,, 9	Llanelly	.....	Away
,, 16	England *v.* Scotland	.....	Away
,, 20	*Final Inter-Hospital Cup*	.....	
,, 23	London Irish	.....	Away
,, 30	Newport	.....	Away

"A" XV.

1928			
Sept. 22	Catford Bridge	.....	Away
,, 29	Haileybury	.....	Away
Oct. 3	*Trial*	.....	
,, 6	Old Paulines	.....	Away
,, 10	Brighton College	.....	Away
,, 13	R.A.F. Eastchurch	.....	Away
,, 20	Kenilworth	.....	Away
,, 27	Bedford "A"	.....	Away
,, 31	Christ's Hospital	.....	Away
Nov. 3	Harlequins "A"	.....	Away
,, 7	R.A.F. Halton	.....	Away
,, 10	Coventry "A"	.....	Away
,, 14	R.A.F. Henlow	.....	Home
,, 17	Catford Bridge	.....	Home
,, 21	R.N.C. "A"	.....	Home
,, 24	London Irish	.....	Home
,, 28	K.O.R.R.	.....	Away
Dec. 1	*1st Round Kent Cup*	.....	
,, 5	Welsh Guards	.....	Home
,, 8	Westcombe Park	.....	Away
,, 15	Toc H	.....	Away
1929			
Jan. 5	Brighton Town	.....	Away
,, 9	R.A.F. Henlow	.....	Away
,, 12	Old Alleynians	.....	Away
,, 19	Northampton "A"	.....	Away
,, 23	R.N.C. "A"	.....	Away
,, 26	H.A.C.	.....	Away
Feb. 2	Rosslyn Park	.....	Home
,, 6	R.A.F. Halton	.....	Home
,, 9	London Welsh "A"	.....	Home
,, 16	Old Rutlishians	.....	Away
,, 20	Reading University	.....	Away
,, 23	Old Blues "A"	.....	Away
,, 27	K.O.R.R.	.....	Home
Mar. 2	Kenilworth	.....	Home
,, 9	O.M.T.'S	.....	Home
,, 16	Richmond "A"	.....	Away
,, 23	London Irish	.....	Away

EDS. { O. P.
E. T. C.

GUY'S HOSPITAL GAZETTE

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PASSIM

MASSAGE, we are told, has had its day. That may be so, but it has certainly never had its special number of the GAZETTE, a deficiency we propose to remedy at once, and, at the same time, to declare our confidence in the fallacy of the first assertion. The truth is that Shepherd's House goes about its business far too quietly. It not only hides its Finsen light under a brass bushel, but dons a white overall and looks harmless as if it had no skeleton in the class room or whirlpool in the basement. Hobnobbing with the rest of us in fracture Out-Patients or occasionally the Museum, elsewhere it is content to maintain the most convent-like seclusion. Ward work, for instance, is carried out secretly in that crowded morning hour which precedes the admission of the common herd. This brings us to a tale.

Disturbed one morning in our effort to persuade the chef that the coagulation of even a College egg is not an entirely impossible culinary feat, we entered the ward somewhat earlier than usual. A few moments and we were free to return to our so-called breakfast except that a series of strange thuds and gasps were emerging from behind a collection of screens. It only required Alf Hewitt's voice to be saying, "Go on, 'it me!" and the sound picture would have been perfect. There was no doubt that something more than a gentle spar was in progress, and that somebody would be considerably the worse for wear in consequence. We remembered that the patient in that particular bed received what were vaguely termed "remedial exercises" for his bronchitis, and always looked pretty done up in the morning, also that we usually passed the frail creature responsible on our way up to the ward. We had always considered the somewhat aggressive air of work well done with which she descended the stairs as ill suited to what we fondly imagined to consist of a series of gentle pattings. Finally, our curiosity overcame us and we rather rudely invaded the screened-off area. To our surprise we beheld the frail creature of the stairs repeatedly leading a pretty left at an emphysematous thorax and bringing across the right to the point of the sternum with great precision. A wicked succession of renal jabs, before which the patient could only cover up or make a feeble attempt to clinch, would follow, succeeded by a classical demonstration of in-fighting in the manner of Ted Kid Lewis. Silently we crept away and left our patient to his secret, for he was no weakling, and held a reputation for his early prowess at the noble art.

Of course, Clinical once occupied the site which is now covered by that imposing structure of red brick, with entrance of sober concrete, and pavement of innumerable stones schooled into a diverse pattern as meaningless as it is multi-coloured. We say "meaningless," but, no doubt, these stones are really as full of meaning to one who can interpret and understand them, as the complicated bodily manipulations seen through the windows of this august pile are to those expert in the finer points of "movements and massage." The William Shepherd House, which comprises the Massage, Light and Electrical Departments, owes its name to its origin, which came about through the sum of £35,000 being given to the Hospital in 1921 by Mr. H. P. Shepherd and the other Executors of the will of the late Mr. William Shepherd.

The word massage appears to be derived from the Arabic *mass* or *mass'h*—we do not insist on the terminal *h*—though the immediate source of the English word is the French *masser*, to shampoo. A study of the classics shows us that shampooing was in great request amongst the ancients, especi-

ally after any great exertion, a suggestion not to be ignored by the advertisers of certain famous shampoo powders. In Hawaii, also, we find that passive movements—called, apparently, for want of a better name, *lomi-lomi*—are bestowed as an act of hospitality on honoured guests and distinguished strangers. We are all in favour of a little more *lomi-lomi*, and we feel that a great deal of the prevalent unemployment among masseuses might be remedied should this honourable practice be revived. A clinic might be set up at the entrance to the Colonnade for the welcoming of distinguished American visitors, and we feel confident that the work there would soon reach such great proportions as to justify the creation of a new Sister Lomi-Lomi.

We are continually being surprised in medicine, and perhaps a little hurt, by the discovery that a particular invention or school of thought, which we had imagined, in our conceit, to be brand new, had been in common practice two or three thousand years earlier. In the same way we find Hippocrates talking wisely about massage. He says: "Rubbing can bind and loosen, can make flesh and cause parts to waste; hard rubbing binds, soft rubbing loosens; much rubbing causes parts to waste, moderate rubbing makes them grow." We should be interested to hear the views of the modern masseuse on this Hippocratic contention.

▭

We should like to quote the following extract from a letter written to the Dean of the Medical School by Dr. S. M. Wells, who has just completed a year's post-graduate work here, and who has now returned to his practice in Valparaiso. He says: "I come away from Guy's with very real regret, as at the end of the best part of a year that I have spent imbibing knowledge, I feel I have made new and lasting friends at my old school. I feel that the spirit of Guy's and the comradeship I met there are just the same as in my student days 25 years ago. The courtesy and kind attentions I have received from both members of the Staff and the students will be things that I shall treasure for the rest of my life. . . ."

One of the outstanding characteristics of the atmosphere permeating Guy's certainly seems to be its hospitality, and we feel that Dr. Wells' sentiments will be echoed by numberless visitors, whether they be old Guy's men or complete strangers to the place.

▭

Marriages are in the air, and the local Thalassian circles have been busy of late. On August 15th Mr. Ronald Jarman, M.R.C.S., L.R.C.P., recently H.S. to Mr. Turner, was married to Miss Mary Putnam Cumming at Marylebone Parish Church, and on September 13th Mr. A. T. Rogers, F.R.C.S., was married to Miss Irene Carter, a late Guy's Sister, at St. Clement Dane's. Mr. Rogers will be well remembered at Guy's as Surgical Registrar in 1924–25.

▭

On September 16th, Mr. C. G. Townsend, the most recently appointed R.O., succeeded Mr. E. C. Till, who retired amid a blaze of glory and—it is whispered—a cascade of finest "Audit." We wish him the very best of luck in his new venture.

To Those Entering the School of Massage.

By W. H. Trethowan, Esq., F.R.C.S.

At this time of year, the beginning of the Winter Session, Guy's receives its greatest infusion—or is it transfusion?—of fresh blood, the new men and women who are to join one or other of the Hospital's famous "schools," and who will partake to the full of those great opportunities for training and experience which are second to none. To all of these recruits to some branch of medicine Guy's extends a cordial welcome, and supplies without stint such assistance as is asked of it. In this great institution hundreds of men and women are ministering to its functions, and are sustaining the glorious traditions of a couple of centuries, while at the same time rendering themselves efficient and able representatives of the Hospital and its teaching when they shall be called upon to put this into practice elsewhere.

In this number of the Gazette we single out particularly for our cheerful welcome those students who are joining the Departments for Physical Exercises and Massage, and the Electrical Department. Of the various origins of disease, such as bacteriological, metabolic and mechanical, the last is the most rational in its conception and therapeutics.

The importance of the mechanical theory of disease—*i.e.*, that most ailments are due to defects of posture consequent upon fatigue, overwork, bad habits and want of muscular exercise—is becoming

appreciated more and more every day. Less and less are surgeons and gynæcologists doing useless —pexies and —orraphies—*i.e.*, tucks, pleats, shortcircuitings—methods for the plumber and dressmaker, but not for healers of human bodies. All this is giving place to the restoration of good posture and muscular strength. It is the remedial gymnast who holds the secret of cure. To this most important branch of therapeutics are you new students becoming apprenticed. Although the work is hard, you will find it absorbingly interesting as being a commonsense kind of treatment.

Much will be expected of you. The Hospital has little use for those who will not take their apportioned share of the burdens, but to the loyal worker ever a firm friend.

Perhaps more in the Applied Physical Exercises than in any other branch of treatment does the advice of the Psalmist hold good; "Whatsoever thy hands find to do, *let the patient* do it with all *his* might."

The Response of Muscle to Electricity.

A Lecture given by Dr. Iredell, at Guy's Hospital, on August 27th, 1928.

GENTLEMEN,—The production of muscle contraction by means of electricity is of importance from two different aspects:—

(*a*) When associated with severe or dangerous electric shocks produced accidentally;

(*b*) As an aid to diagnosis in nervous diseases.

Accidents from electricity are now more common than they used to be owing to its extended use, and, in spite of the fact that precautions are becoming more standardised, it is probable that the number of accidents of this kind will increase rather then lessen.

Some years ago, in a South Coast town, a motor car ran into an electric standard and broke it. An electric wire apparently became connected with the car and, in endeavouring to get the people out of the car, two rescuers were knocked over by an electric shock. Probably, if before touching the people the rescuers had protected their hands by wrapping them in a dry coat or rug they would have been insulated and could have extracted the passengers without harm to themselves. In this case the violence of the muscular contraction was so strong that the rescuers were knocked down.

Recently, a woman who was using an electric sweeper was found dead in her house from an electric shock. Probably the insulation of the sweeper was defective and while she was touching it with one hand she happened to touch what is known as the "earth" with the other. In these days of wireless it is hardly necessary to explain what an "earth" is, but it is not so generally known that one pole of the dynamos which produce electricity for lighting the modern town is usually "earthed," so that, if the negative pole of a dynamo is "earthed" and anyone catches hold of a wire connected with the positive pole, the whole current from the dynamo may pass through him. If his hands are very dry their resistance may be so high that little goes through, but if his hands are moist results may be serious. Probably in the case instanced above the latter condition was present.

Generally speaking, earth shocks are mild. For example, if a surgeon stands in a pool of water in the theatre and uses a cystoscope which is connected with a wall plug he may get an electric shock near his eye from the instrument touching his eyebrow. If the cystoscope is used with an accumulator or a dry battery this danger does not arise. This kind of earth shock, though unpleasant, has never yet done any harm at Guy's except perhaps to the surgeon's feelings.

A very real source of danger which may sometimes be seen, principally in older houses, is an electric switch in the bathroom which can be reached from the bath. Theoretically, a switch is always insulated, but some years ago no fewer than two deaths occurred in patients who were having electric baths in which they were stretched out at full length in the water while undergoing treatment, and in all probability their death was due to their touching some imperfectly insulated live wire. This is possibly the reason why full length electric baths are rarely given now.

You will probably ask what are the factors, besides this question of earth shocks, which make electricity dangerous. You can get a shock from a static machine which resembles a prick more than anything else and which, though unpleasant, does not even produce a muscular contraction and is quite harmless. In this case the electrical pressure may be 100,000 volts, but the current is so small as to be inappreciable, and is therefore not dangerous. On the other hand, a source of elec-

tricity may be capable of giving out a very high current, but if the pressure is low it will not be sufficient to drive it through the human body, and therefore the individual feels nothing. In order to produce an unpleasant or dangerous shock it is necessary to have comparatively high pressure and high current as well. Here at Guy's, where the pressure is 105 volts, dangerous shocks are practically unknown, but most towns now supply electricity at rather over 200 volts, and the risks are distinctly greater. The Board of Trade limit the pressure at which electricity may be supplied to private houses to 250 volts. On the electric railways and tramways the pressure is often 500 volts, and this is definitely dangerous. On some of the electric railways the pressure runs into thousands of volts, and to touch this, even without forming a circuit, means instant death.

It is usually stated that alternating electricity is more dangerous than a continuous current, but I do not think that practically this is a matter of great importance.

A severe electric shock may be fatal at once or it may produce unconsciousness. In the latter case the proper treatment is to give artificial respiration, and, if possible, subcutaneous injections of strychnine. Sometimes, when recovery has taken place, there is paralysis of the muscles of the forearm, and an electric burn may or may not be present. If a burn is present it is exceedingly slow to heal, and should be treated with mild antiseptics. All the cases of paralysis which I have seen have recovered, and, curiously enough, mild electrical stimulation seems to help.

One question which crops up from time to time is whether electrocution is painful or not. You will find that the patient who has been rendered unconscious by an electrical shock has no recollection of feeling any pain, and some time ago there appeared in the Press a letter from an engineer giving actual details of the conditions in which he had received a shock which had rendered him unconscious for 10 minutes, and in which he pointed out quite distinctly that, on recovering consciousness, he had no recollection of having suffered any pain at all.

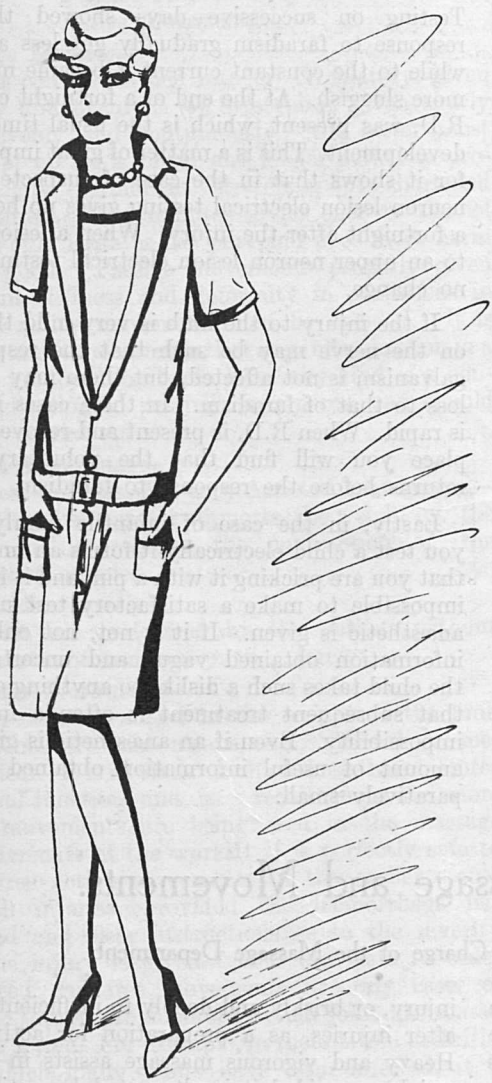
I now come to my second heading and must point out, as I have not already done so, that if a very powerful current passes through anyone the muscles go into contraction whether the current is continuous or alternating, and, if it is through the hands and the patient accidentally catches hold of the wires through which a high current is passing, he will be unable to leave go.

In muscle testing and treatment relatively very small currents are used, and then there is a distinct difference between a continuous and an alternating current. The alternating or faradic is usually employed. If the faradic current applied to the human muscle is not too small a contraction is produced which starts as soon as the current begins to flow and relaxes as soon as the current is switched off, and in this way resembles the effect of high currents, whether continuous or alternating. On the other hand, if the continuous current is used, provided the current is not too small—say, 2 or 3 milliamperes—a sharp twitch is produced in the muscle directly the electrode is applied, which relaxes almost instantaneously, although the current continues to pass. When the current ceases to flow, no effect is noticed unless the current is comparatively high, when, very occasionally, a smaller twitch is again produced.

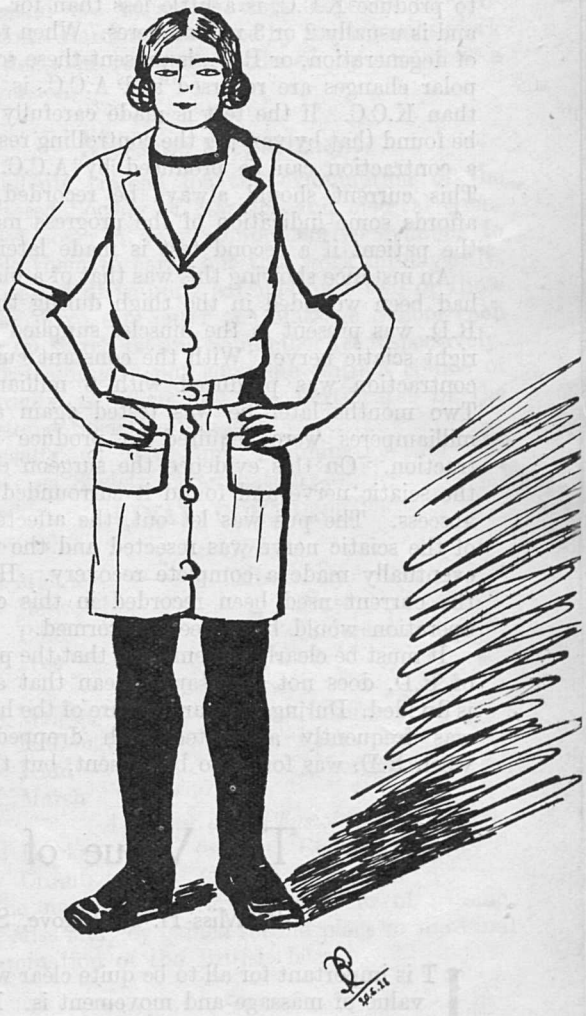
If you carry out a considerable number of muscle tests the most marked effect that will strike you when using continuous current is the brisk response of the healthy muscle. You will sometimes find a distinction drawn between the electrical reaction when the current is applied to the nerve and when it is applied to the muscle. From the practical point of view, there is very little to be gained clinically by applying the current to the nerve, and it is easier to consider the muscle and the nerve supplying it as one inseparable unit. If the nerve is injured you will find that the muscle supplied by it does not respond to faradism, no matter how strong the current. On the other hand, the response to the constant current is still present, but is altered in character. A higher current is necessary to produce a contraction, and, instead of a sharp twitch, the contraction does not start simultaneously with the application of the current and it reaches its maximum more slowly and it takes a considerably longer time to relax. Moreover, the contraction is not so complete. It is sometimes found when the extensors of the wrist are paralysed and require a high current to make them contract that the current passes through the forearm and stimulates the flexors which contract first, so that the wrist is actually flexed and relaxed before the action of the extensors comes into play. In the case of facial paralysis the muscles of the face frequently respond with a smaller current than normal, but this is the only common exception to the rule that in a reaction of degeneration a higher current than usual is necessary.

When electrical treatment is carried out in practice it is usual to put a large "indifferent" electrode in some convenient part of the body, such as the arm or leg, on the opposite side of the part tested. It is, however, an advantage to put it in the middle line of the spine, as it is then possible to compare the normal with the affected

Massage.



The Illusion



The Reality

side. If the electrode at the back is connected with the anode of the battery and the small or testing electrode is applied to the affected muscle the operator is said to close the circuit with the cathode, and the contraction produced is said to be a cathodal closing contracture, which term is frequently contracted to K.C.C. The reverse condition is known as A.C.C., while on the rare occasions on which the removal of the electrode produces a contraction, the letters A.O.C. and K.O.C. are used.

In muscle testing the pain should not be more than a slight prick, and this is more marked with K.C.C. than with A.C.C., and the current necessary to produce K.C.C. is a little less than for A.C.C., and is usually 2 or 3 milliamperes. When reaction of degeneration, or R.D., is present these so-called polar changes are reversed and A.C.C. is greater than K.C.C. If the test is made carefully it will be found that by varying the controlling resistance a contraction can be produced by A.C.C. alone. This current should always be recorded, as it affords some indication of the progress made by the patient if a second test is made later on.

An instance showing this was that of a man who had been wounded in the thigh during the war. R.D. was present in the muscles supplied by the right sciatic nerve. With the constant current a contraction was produced with 6 milliamperes. Two months later he was tested again and 10 milliamperes were required to produce a contraction. On this evidence the surgeon exposed the sciatic nerve and found it surrounded by an abscess. The pus was let out, the affected part of the sciatic nerve was resected and the patient eventually made a complete recovery. Had not the current used been recorded in this case no operation would have been performed.

It must be clearly remembered that the presence of R.D. does not necessarily mean that a nerve is divided. During the war fracture of the humerus was frequently associated with dropped wrist when R.D. was found to be present, but the vast majority got well without operation, and it must be remembered that neuritis due to lead or arsenical poisoning always gives rise to R.D.

An important point to remember is that R.D., when produced by injury, does not appear at once. During the war a patient suffering from dropped wrist was sent to have his electrical reaction investigated. To my surprise, he responded normally, and on inquiry I found that he had been wounded two days previously. Up to that time the wounded had usually been kept for a fortnight in France before being sent over, and the absence of R.D. was thus explained. Testing on successive days showed that the response to faradism gradually got less and less, while to the constant current it became more and more sluggish. At the end of a fortnight complete R.D. was present, which is the usual time for its development. This is a matter of great importance, for it shows that in the case of suspected upper neuron lesion electrical testing gives no help until a fortnight after the injury. When a lesion is due to an upper neuron lesion electrical testing shows no change.

If the injury to the limb is very mild the effect on the nerve may be such that the response to galvanism is not affected, but there may be some loss to that of faradism. In these cases recovery is rapid. When R.D. is present and recovery takes place you will find that the voluntary power returns before the response to faradism.

Lastly, in the case of infantile paralysis. If you test a child electrically it forms an impression that you are pricking it with a pin, and it is almost impossible to make a satisfactory test unless an anæsthetic is given. If it is not, not only is the information obtained vague and uncertain, but the child takes such a dislike to anything electrical that subsequent treatment is often a matter of impossibility. Even if an anæsthetic is given, the amount of useful information obtained is comparatively small.

The Value of Massage and Movements.

By Miss H. S. Angove, Sister-in-Charge of the Massage Department.

IT is important for all to be quite clear what the value of massage and movement is. Massage consists of a series of passive manipulations carried out on the soft tissues of the body. These movements may be given gently and soothingly to allay pain in non-septic conditions, very slowly and deeply in chronic œdema, briskly and lightly to paralysed muscles and swollen limbs due to early injury, or briskly and deeply to inefficient muscles after injuries, as a preparation for active work. Heavy and vigorous massage assists in reducing weight, provided it is alternated by active work.

Massage can be used as an introduction to active work after serious illness, when the muscles have not been used for a long period. Let it be quite clear that massage may prepare the structures

to enable them to work, but it has neither the power to build up the body nor to produce movement. It cannot loosen a stiff joint, nor can it give strength to the human frame. When old chronic cases come to the Massage Department ordered massage, and the same order is repeated time after time it is truly irritating, and a waste of time for both patient and masseuse. Patients like it and will continue to ask for it, but who does not like the thing which is bad? Massage used in the right place is of tremendous value, but used in the wrong is worse than the dole.

Movements are divided into two large groups :—

Passive Movements to Joints.
Active Movements.

Passive Movement—

This can be divided into (*a*) Circulatory, given slowly and evenly; (*b*) Stretching, given slowly and evenly and continuously; the latter must be kept up for a longer and longer period to produce any permanent stretching of shortened structures. Five minutes given once in the 24 hours only irritates the part and does more harm than good. Passive movements properly given prevent stiffness and deformity in conditions in which active movement must be avoided. It is important to remember that any inflammation in a joint produced by bacteria of any kind is a contra-indication to passive movements, and should never be ordered.

Active Movements—

These are classified into Assisted movements—in which the operator supports the weight of the limb and encourages the contraction of the weakened muscles.

Free Movements—

These are performed by the patient without any restraint from an outside force.

Resisted Movements—

A resistance added to the weight of the limb by some artificial means—*e.g.*, manual or mechanical. It is obvious which of these three restores normal function, and, as a result, more and more free movements are being used in the massage departments of the world. It is perfectly safe to use free active movements in the earlier stages of all injuries, provided the hæmorrhage has ceased and clear instructions as to the severity of the injury is given. It is also safe to order assisted and free movements in early cases of septic joints, provided the actual joint has ceased to be active. For example, in rheumatoid arthritis, in which many joints have been infected, it is safe to give assisted and free movements to all the joints as the acute inflammation clears up, other joints in the body still being active, and provided extension is used during the movement to prevent the rubbing of articular surfaces. The enormous value of these early free movements has been demonstrated time after time. Delay in beginning active work lengthens the time of inactivity for the patient and unnecessarily increases the work in the massage department.

To stimulate effort the patients have been classified into injuries and diseases localised to one part, and are treated in classes. These classes are entirely free work; some are stimulated by music, and the others by word of command. Their value is that the patient, after repeating the same movement over and over again, gradually finds he can do the work and asks for his discharge much earlier than if left to individual treatment. The successful use of active work depends on progression. Harm can be done by too vigorous work and delay in recovery produced by too slow a progression.

Massage Department.

Students trained for the examination of the Chartered Society of Massage and Medical Gymnastics cover a very comprehensive syllabus to enable them to carry out this work intelligently. The period of training extends over two or three years. Two sets enter the Massage School each year, on March 1st and September 1st respectively. Their training is not complete until a course of electricity is taken and the Certificates of the Chartered Society obtained.

Results at the June Examination for the Chartered Society Examination :—

FINAL CONJOINT.

1st Class

Miss Midgley	Miss Gray
„ Delworth	„ Pratt
„ Bain	„ Gilderdale
„ Ives	

2nd Class

Miss Wright	Miss Kashnor
„ McLoughlin	„ Park
„ Kidd	„ Ackermann
„ Marsh	

Anatomy and Physiology

Miss Hucks	Miss Geoghegan
„ Cromb	„ Barbezat

The names are arranged in order of passing, and Miss Midgley gained second place in the Final Examination of the British Isles.

The Electrical and X-Ray Schools.

Inaugurated in 1917 at the suggestion of Sir Cooper Perry, these schools now offer a choice of three trainings :—

Ultra-Violet Light Course—

Open only to trained nurses or masseuses. Minimum duration 2 weeks.

This course was started in 1926, and a considerable number of nurses and masseuses have taken advantage of it.

Electro-Medical Course—

Open only to masseuses who wish to enter for the C.S.M.M.G. examination in medical electricity.

Courses commence in February, July and November of each year, and each course extends over a period of from 4–5 months.

Ultra-Violet Light, Electro-Medical and X-Ray Course—

For entrance to this course, which extends over a period of one year, no previous experience is necessary.

For those who already hold the C.S.M.M.G. Certificate for Medical Electricity, a concession is made, 8 months' attendance being required instead of 12 months.

Students enter twice yearly and the Hospital grants a Certificate to all those who are successful in the final examinations.

After this course of training students are eligible to enter for the Society of Radiographers' Examination should they wish to do so. Only women students are received.

Radiography as a Career for Women—

Those who take up this work are sure to find it full of interest; new ideas and new methods are constantly being put forward. Great responsibility is attached to the work, and anyone considering it needs to be healthy, intelligent, methodical and reliable.

The average number of working hours are 35–40 per week, and the average salary £70–100 resident, £150–200 non-resident.

Till within the past few months the demand for radiographers has been greater than the supply, but as more and more women are taking up the work this condition of affairs is now changing. The prospects, however, are still reasonably good.

Angina Pectoris.

A Lecture given by Dr. Douthwaite, at Guy's Hospital, on August 24th, 1928.

GENTLEMEN,—I have chosen the subject of angina pectoris because it is one of the most tragic diseases of which we know, and also because it is rarely seen in hospital. A large number of men go through not only their training as students, but also as house physicians, and never see a case of this kind. In general practice you will see several every year. The reason for this will be apparent as I describe the disease.

Angina pectoris can be described as a paroxysmal disturbance of the cardio-vascular system, associated with three cardinal symptoms. These are pain, fear—this being usually of imminent death—and disturbance of respiration. Before dealing with genuine angina, just a few words with reference to pseudo-angina, because it is mentioned in your text books, and the diagnosis, though often made, is dangerous in that it leads you into the slumber of false security, from which you may be rudely awakened by the patient's sudden death.

Pseudo-angina, though closely resembling angina, usually occurs in persons between 20 and 40 years of age, particularly in women. It is brought on by exertion, fatigue, worry, emotion and flatulence. To give you an example of this condition: A lady, aged 48, consulted me on account of substernal pain, which was brought on by fatigue rather than sudden exertion, and which radiated into the left arm and left side of the neck. The pain was severe and lasted from 10 minutes to half an hour. It was sometimes relieved by drinking hot water. She was dyspnœic in the attack, and the skin was blanched. Occasionally fainting culminated the seizure. On further inquiry it was found that she lived the harassed life of a stepmother, with a mentally afflicted husband who required constant attention, and who was most difficult to handle.

On examination no abnormalities could be detected, either clinically or electro-cardiographically. Shortly before one attack, however, I found the systolic blood pressure to have risen from the usual 140 to 170. This was accompanied by coldness and blanching of the extremities. The attack was aborted by the inhalation of amyl nitrite. The patient was free from pain during the six weeks that she was away from home.

There can be no doubt that the symptoms in this case, though fundamentally dependent upon the mental stress from which she suffered, were actually called forth by a widespread vaso-constriction, with consequent strain on the aorta and heart. It is quite possible, therefore, that the

immediate cause of pain in pseudo-angina and true angina is the same, but in the latter case one is dealing with relatively normal stresses affecting diseased structures, rather than excessive strains on healthy organs.

To sum up, the diagnosis of pseudo-angina may be entertained if the attacks occur in relatively young people, particularly women, who exhibit no physical signs of disease, but are often of neurotic temperament. Warnings in the form of coldness and pallor of the extremities, and palpitation, leading up to an attack in which extra-systoles, and "ambulatory dyspnœa," as opposed to the immobility of angina vera, are prominent features, all help to confirm the suspicion. At the risk of tiresome repetition, however, I warn you that the diagnosis of pseudo-angina must be made with the greatest caution and after the most painstaking investigations.

In true angina the three cardinal symptoms are, as we have said, pain, fear of approaching death and disturbance of respiration. The pain is a most striking and impressive symptom, and enables you as a rule to diagnose a true anginal attack without difficulty.

As regards ætiology, angina attacks the male sex predominantly, and the disease generally occurs between the ages of 40 and 60. Of the predisposing diseases syphilis is one to bear in mind, but is in my experience uncommon. Arterial degeneration, gout, lead poisoning, excessive smoking and alcoholism may lead to arterial disease and, secondarily, to angina. But in the majority of cases you will find that the patients who suffer from angina are those who have lived a "godly and righteous" life. It is interesting to note that the majority of my cases occurred in teetotalers and non-smokers. The type of man who develops angina is he who has put his life into his work, the hyper-conscious brain-worker who has carried a heavy load of responsibility. It is, therefore, a popular disease amongst members of our profession.

Less commonly, angina occurs in women, and even children have died from it when complicating an attack of rheumatic fever with aortitis.

The important precipitating causes of an attack are exertion, cold, emotion, particularly anger, and flatulence.

Pain—

The pain is described by the patient as of a crushing, unbearable nature, and is usually felt at the upper part of the sternum, not in the precordial region. It comes on after some unusual exertion, such as hurrying to catch a train, running upstairs, chasing a motor-bus, or walking against a strong head wind. Next to exertion in order of importance comes exposure to cold, and this explains the high proportion of anginal attacks occurring in winter months. Patients instinctively guard against going out into a cold atmosphere, but overlook the fact that the body's surface is much more effectively chilled by undressing in an unheated bedroom and getting between ice-cold sheets.

On this account many attacks occur at bedtime or on rising in the morning. The pain reaches its maximum intensity rapidly and renders the patient rigid, a point of distinction between angina and pseudo-angina. Owing to this enforced immobility, we do not see him at hospital. Starting beneath the sternum, the pain radiates into the inner side of the left arm, sometimes affects both arms, and may extend right down to the fingers. With further radiation it may spread into the neck and head. It generally lasts a few minutes and then passes off, leaving the patient in a terrified condition.

Before leaving the actual question of pain, I must mention that it occasionally occurs in unusual positions. Although uncommon, this happens sufficiently often to necessitate your bearing the fact in mind. It may start in the epigastrium, but then spreads up into the sternum and follows the usual paths. The face, chin and front teeth are other uncommon positions of localisation. One such case I had which was so remarkable that I will describe it to you. I was called one day to see a man who had for two years suffered from severe pain in the chin; it was almost unbearable. He had had all his teeth extracted, but without relief. The history, always the most important diagnostic aid, gave the clue. It was that when he hurried to his train the pain came on and forced him to a standstill. Observe, again, the immobility caused by angina. He could not take a deep breath and felt very ill. The diagnosis was correct, as proved very soon afterwards, when, having strained himself, the pain came on in his chin, but was later followed by true cardiac dyspnœa and all the signs of a failing heart.

Respiration—

The change in this function differs from that which occurs in other diseases of the heart in that the breath is held, for perhaps 30 seconds, and when the patient breathes again it is in short grunts, as if afraid to fully expand the chest lest this should increase the pain. Dyspnœa is not present.

Fear—

The fear of impending death is interesting in so far as there are not many diseases in which a patient realises the gravity of his condition. The fear of death may, in some attacks of angina,

come on before pain, but that is rare. He feels he is going to die, that nothing can save him, and his subjective sensations are depicted by the terror-stricken appearance of his face.

Next, with regard to the signs. Examination of a patient in an attack of angina reveals very little except the characteristic immobility and pallor. He cannot speak, and if you approach to examine him he will motion you to stand aside as if fearing that you will interfere with his supply of air. His pulse is probably unchanged, the blood pressure normal or slightly raised, the first heart sound is commonly reduced in intensity. No change in the size of the heart is discernible, unless some pre-existing disease has affected this organ. The aortic valve will usually give a clanging sound owing to atheroma in this position. Occasionally, changes in the lungs occur during an attack, the condition being one of acute over-distension of the alveoli due to bronchial spasm. I had the good fortune to be listening to the chest of an anginal patient when an attack supervened. The ordinary vesicular murmur came to an abrupt standstill, and when respiration recommenced, it was replaced by a high-pitched wheezing in the expiratory phase, with great diminution in the excursion of the chest. Within a minute of the subsidence of the pain the pulmonary sounds were again normal. When the attack passes off the patient's colour rapidly returns. There may be belching up of wind and the passage of a dilute urine.

Treatment—

The object of treatment of the attack is to relieve pain quickly, and in a high proportion of cases amyl nitrite is completely satisfactory. If this fail, morphine must be injected, though I confess to being uneasy of its use, having seen three consecutive cases die within 20 minutes of its administration. Flatulence which accompanies or precipitates an anginal seizure may be relieved and the pain cut short by the exhibition of brandy, sal volatile and hot water. In fact, this simple remedy may prove more efficacious than the drugs in general use. The sufferer must be warned never to be without his nitrite capsules day or night, but in addition to this I advise him to carry a single dose, composed in this manner :—

R/

Liq. Trinitrini	4	minims
Tr. Card. Co.	20	„
Spr. Ammon.	10	„
Spr. Vin. Gallic	15	„
Aq. ad	2	drachms

If such a mixture is taken immediately substernal tension becomes evident, the attack may be aborted and the unpleasant effect of giddiness produced by amyl nitrite is avoided.

Treatment of a severe attack, then, presents no great difficulty, but if you are to be of any real use to your patients you must be prepared to diagnose angina pectoris before a typical paroxysm has occurred. Now, the premonitory warnings may extend over many months, yet they present in minor degree all the characteristics of the fully developed syndrome. Such cases complain almost invariably of indigestion. They feel that if they could " bring up wind " all would be well. On inquiry it is elicited that the discomfort is felt in the centre of the chest, about the mid-sternal region. It is noticed on going for a walk after a heavy meal, particularly in the case of City workers, on hurrying to catch the morning train after partaking of the large breakfast which is favoured in this country. Notice, however, that even in such mild attacks the tendency is towards immobility, *i.e.*, the patient finds that he must stand still for a few minutes, when the discomfort will vanish. An observant man may even tell you that for the moment he cannot take a full breath because of the " lump " in his chest. That he feels ill in the attack is evidenced by the fact that he consults you, although when so doing he usually makes light of the matter, largely, I think, due to an attempt to repress the as yet vague premonitions of grave mischief.

As an example, a man, 65 years of age, came to me complaining of these symptoms. He was a non-smoker and teetotaler, and had never indulged in any excess in the course of his exemplary life, as far as I could gather. He was a sidesman who collected money in church. As this was in a small town where he was known to everyone, he regarded this function as a great honour and performed it under considerable emotion. He noticed a tight feeling beneath his sternum when walking up and down the aisle, but this passed off when he sat down. He told me that if he hurried or walked against a strong wind he experienced the same feeling, which, again, was relieved by rest. Angina was diagnosed on this history, and the presence of a raised blood pressure. His activities were restricted in consequence, and all went well for a year without further attack. The diagnosis was then confirmed by a fully developed fatal anginal seizure, the first in which he had had severe pain. This occurred one morning when he got thoroughly chilled after getting out of bed.

The great difficulty you will encounter in diagnosing angina in its early stages is the attitude of the patients and relatives towards your warnings. You will be regarded as a scaremonger if

you have the temerity to pronounce as anginal a mere discomfort which they declare to be relieved by a dose of bicarbonate of soda. On the other hand, if you do not warn your patient you will be failing in your duty and will be somewhat unpopular should he suddenly die. As a case in point, let me tell you here of a retired sea captain who complained of "bronchial asthma." One found that on exertion he had a tight feeling in his chest which interfered with breathing, and disappeared on resting. Occasionally it amounted to pain and passed into the left arm. He was assured of the nature of his symptoms and urged to rest completely for some days. This is the last I saw of him, but it is reported that he went straight off to his club and held forth on the neuroticism of doctors, declaring that he was not going to take any d—— notice of them. His sudden death a few weeks later presented not only the gloomy satisfaction of a correct diagnosis, but also the tragedy of an impoverished family, brought about by stubbornness. Granted, however, that you have a patient amenable to reason, what advice can you give him to prolong his life?

Your duty is to go into every detail of his daily routine in order to eliminate unnecessary work and worry, excessive exercise, or, again, exposure to unrecognised dangers. This necessitates writing down for him certain precautions, which I will briefly outline to you:—

Starting at the beginning of the day, in winter the bedroom windows must be shut and a fire lit at least half an hour before he rises. Similarly, the bathroom and lavatory must be warmed before use. It is essential that he should not strain at stool, so some suitable laxative may be found necessary. He must not leave the house in the early morning in very cold weather if it can be avoided. He must be careful to breathe through the nose so as to warm up the inspired air, and on no account may he hurry. Hills and stairs must be taken very deliberately, and no heavy articles should be carried. Rest after the main meal of the day should be enjoined, and, finally, the bedroom and bed must be well warmed before retiring. Elderly men are often compelled during the night to rise in order to micturate. As the room will now be cold such action is a great danger to the patient, and a bed bottle should be insisted upon.

Forgive the recitation of wearisome details, for they are absolutely necessary if we wish to fulfil our function of prolonging life and checking disease.

Treatment by means of Nauheim baths and exercises is often of value, particularly in those cases exhibiting a raised blood pressure.

There are some heroic measures with regard to treatment, such as operating on obstinate cases of angina pectoris. Before discussing details of these steps I must remind you that there is a great danger of attacks being brought on by emotion, and preparation of a patient for operation seems to be a most likely way of calling forth the symptoms and possibly killing him. If, in spite of all efforts, the seizures become more frequent and the patient's life is absolutely miserable, then operation is justified, but remember to warn the the relatives that death may occur on the table before you start.

One operation is that of cervical sympathectomy. Afferent impulses from the heart pass to the cord by way of the cardiac nerves to the cervical sympathetic trunk, also by fibres to the stellate ganglion, and still further down to the dorsal sympathetic chain. Even entire removal of the cervical sympathetic will fail to interrupt the lowest of these fibres.

On the other hand, the chief communications between the cervico-dorsal sympathetic and the spinal cord are through the rami communicantes of the upper dorsal nerves. It is these rami which are blocked if the alternative operation of paravertebral injection of 5 c.c. of 85 per cent. alcohol into the upper five intercostal nerves is employed. The injection is made as close as possible to the inter-vertebral foramen, and, if successful, produce anæsthesia of half the chest wall, together with a contracted pupil and narrow palpebral fissure. This procedure is safer and more satisfactory, and the effect of abolishing pain may last for three or four years.

Prognosis—

The first attack of angina may kill the patient, or he may suffer for years before eventually succumbing. The main points to consider are the condition of the heart and blood vessels, and the degree of exertion required to initiate an attack. Furthermore, angina pectoris occurring in patients with a normal or low blood pressure is usually of more serious import than when appearing in hyperpietics.

Pathology—

In patients who have died of angina, surprisingly little may be found to account for the condition. As a rule there is aortic disease, usually simple atheroma with calcification, but aneurysm, syphilitic aortitis, acute or old rheumatic aortitis with valvular involvement may be present. The heart is often apparently unchanged, but enlargement and the presence of diffuse scarring is not uncommon. The coronary vessels are almost always the seat of atheroma and calcification, though often

their orifices only are affected by the neighbouring disease in the aorta.

There has been much discussion in recent years as to the actual cause of anginal pain. Allbutt believed that it was aortic in origin, and his arguments are certainly attractive. However, I will not weary you with a discussion which has not yet reached its termination.

Diagnosis—

Gall stone colic may be confused with angina, but the history and the absence of immobility in the attack will help to settle this problem.

Cardiac infarction is of much greater importance, occurring, as it often does, in anginal subjects. The condition is due to thrombosis in a diseased coronary vessel, and produces intense pain which persists for many hours or days. It probably accounts for the condition previously described as status angiosus. The pain comes on with the same suddenness, but not after exertion, the patient often being in bed. It is usually felt in the lower rather than the upper part of the sternum; it is very severe, as in angina, but of longer duration. As regards the attitude of the patient, in angina there is immobility, in infarction it is that of writhing in pain, but with pronounced dyspnœa.

As regards signs, in coronary thrombosis the blood pressure falls, the heart sounds are scarcely audible, and the pulse is small and rapid. Such changes are, of course, to be expected when you consider that a large area of myocardium has been rendered functionless. A few days after cardiac infarction occurs, an adventitious sound arises in the form of a pericardial rub. With regard to blood changes, in cardiac infarction there is mild leucocytosis of 15 to 20,000. The temperature may also rise to 99 or 100. Signs of heart failure, such as enlargement of the liver and the appearance of œdema, are common. Shock and vomiting occur with greater frequency in infarction than in angina.

Finally, one should mention a characteristic change in the electro-cardiogram resulting from cardiac infarction, but never from angina. After the former the iso-electric period between the R S and T waves is absent, the R–T section being elevated thus [change demonstrated on blackboard.] After some weeks the T wave is inverted and of large amplitude, but the earlier change has now vanished.

As you have, no doubt, already perceived, amyl nitrite is the very last drug which should be used in cases of coronary thrombosis, but morphine should be given at once to quell the intense pain and produce bodily rest.

The condition is a very important one to recognise, and has attracted much interest during the last year. I strongly recommend you to look up Parkinson and Bedford's lucid paper,* not only because it will add to your clinical knowledge, but also for the more sordid reason that questions on this disease will surely appear in the examination papers of the near future.

* *Lancet*, January 7th, 1928.

Reviews.

Clinical Pathology. By P. N. Panton, M.A., M.B., B.C. Cantab., and J. R. Marrack, M.A. M.D. Cantab. 2nd Edition. Published by Messrs. J. & A. Churchill. *Price* 15*s.*

IN an era of medicine, when chemical and bacteriological examinations are playing an ever increasing part in both the diagnosis and treatment of disease, a new edition of this excellent book will be welcomed. For the most part brief and to the point, it contains within 500 pages all the information necessary for the clinical pathologist. Divided up into eight sections, it deals in turn with the examination of the blood, puncture fluids, urinary system, alimentary system, the eye and skin and the respiratory tract, while special sections are devoted to bacteriological and histological methods.

This edition has been thoroughly revised, and the chemical sections have been entirely rewritten by Dr. Marrack, who has become a joint author of the work. It contains many excellent plates and illustrations, mostly drawn from the actual preparations, and well serves its purpose as a book of intermediate size for the use of both student and practitioner.

Post-Mortem Appearances. By Joan M. Ross, M.D., B.S.(Lond.). 2nd Edition. Published by Oxford University Press (Milford).

SINCE its first publication this useful little book has been subjected to a thorough revision. As a means of quick reference it is extremely helpful both to the busy practitioner, called upon to make an occasional autopsy, and to the student, who by consulting it in the post-mortem room will find out whether the case under consideration is abnormal or not.

It describes in a concise and pleasant form the chief anatomical changes found in the commoner

diseases, information which previously could only be obtained by long practical experience or extensive reading.

This book will continue to be of great value both before and after qualification.

Gynæcology. By T. W. EDEN, M.D., F.R.C.S., and C. LOCKYER, M.D., F.R.C.S. 3rd Edition. Published by Messrs. J. & A. Churchill. *Price* 30*s.*

RECENT work in every branch of the subject with which it deals, has necessitated very extensive additions and alterations in this new edition. The size of the pages has been increased slightly so that although containing more subject matter the number of pages have been reduced, while eight new plates and 18 fresh illustrations have been added to the text. Fresh researches on the histoloy of menstruation and on the function of the corpus luteum, Samson's investigations into the nature of ovarian blood-cysts and Goodall's work on the origin of epithelial growths of the ovary have been given due emphasis.

A short account of diverticulitis is included, while the chapter dealing with cancer of the cervix has been completely revised. Tubal insufflation now finds a place under methods of examination.

The new publication maintains in every way the high standard set by the previous editions.

Post-Mortems and Morbid Anatomy. By T. SHENNAN, M.D., F.R.C.S. 2nd Edition. Published by Messrs. Faber & Gwyer, Ltd. *Price* 25*s.*

IN preparing a second edition of *Post-Mortems and Morbid Anatomy*, the author has rewritten much of his work, and the additions which have been made have tended to make it into a text book of special pathology as well as a manual for use in the post-mortem Room. The arrangement of the subject matter follows the usual routine of a post-mortem examination. The description of the general examination of the body is followed by methods of opening the cavities and removal of the viscera. The examination of the thoracic contents are described, this including the recent researches into the pathology of pneumonia and diseases of the blood vessels.

The pathology and post-mortem changes occurring in the diseases of the abdominal organs, the reproductive system and the nervous system, as well as those of the bones, joints and muscles are excellently described, while the many illustrations, chiefly photographs from actual specimens, add greatly to the lucidity of the text.

An additional chapter deals with medico-legal post-mortems, post-mortems on still-born infants and on cases of death under anæsthesia. The appendix contains useful laboratory methods, included in which is the recent process for retaining the natural colours of the tissues.

The book throughout is excellently written and contains many beautiful illustrations.

Exposures of the Long Bones and other Surgical Methods. By A. K. HENRY, M.B., F.R.C.S.I. 1st Edition. Published by Messrs. John Wright & Sons, Ltd. *Price* 10*s.* 6*d.*

TO quote Sir W. I. de C. Wheeler, who writes an introduction to this book, "Books which view operations from an original angle and books which avoid the fatal jungle of empiricism will always have a prominent place in the reference library of the scientific surgeon." That such is the case with Professor Henry's books will be clear to him who reads it. Divided into two sections, the first deals with exposures of the long bones. Each method is the outcome of actual experience. A new approach to the femur is described, because "a case of gunshot fracture of the femur which died from the added hæmorrhage of a lateral approach led me to seek a less bloody method." The method described "respects anatomy, is relatively bloodless and gives a wide and convenient exposure." The approach is an anterior one and over 12 inches of the shaft are freely exposed.

The region of the shoulder joint is exposed by a simple, yet ingenious, deltoid flap method. A hinged chip of the clavicle containing the origin of the deltoid muscle is turned laterally. This gives a good exposure and the deltoid origin is later reconstituted by two sutures which tie the chip back into place.

Section II is devoted to other surgical methods. That advocated for exposure of the plantar structures is by a long curved incision through the softer skin of the inner side of the foot. This avoids any incision through the thick unyielding skin of the sole, which the author considers unsurgical and to be avoided. This exposure seems to provide adequate room and means of approach to the plantar arch.

A new method for ligature of the vertebral artery is described. In this operation the site of ligation is at the distal end of the second part of the artery, where it lies between the transverse process and the axis vertebra. The advantages of this method over the more usual one of ligature of the third part would appear to be the avoidance of damage to the large venous plexus around that

section of the artery, and, in careful hands, the only danger is the jugular vein, which can be avoided by keeping posterior to the tips of the transverse processes of the vertebræ throughout the operation.

In the words of the author " surgery advances through simplification to security." An approach to the first stage of the left subclavian artery from behind is obtained by costo-transversectomy at the level of the second rib on the left side. Depression of the pleural dome leaves the artery exposed from the aorta to the first rib, and, unlike the usual anterior approach, no structure, except the ansa subclavia, intervenes between the operator and the vessel. This method, which, worked out in the cadaver, has been successfully performed for a case of subclavian aneurysm, would seem to simplify a difficult operation.

An ingenious cup-and-ball modification of the aneurysm needle is described, and should prove valuable for deep ligations. A new method of resecting the left cervicodorsal ganglion should stimulate interest and thought.

The book concludes with a discussion of the surgery of the pituitary gland. The book throughout is excellently illustrated and very interesting.

To quote once again Sir W. Wheeler, " The saying that all good things which exist are the fruits of originality applies more especially to surgery." Professor Henry's book not only is full of good things, but overflows with practical information which cannot be obtained from any other source."

How to Start in General Practice, being Practical Advice for the Newly Qualified. By Isaac G. Briggs, M.R.C.S., L.R.C.P. Published by Messrs. John Murray. *Price* 6*s.*

THE author of this small volume speaks from his own practical experience as one of those hardy spirits who " put up the plate " soon after qualification and made a success of the venture. His advice is therefore sound, extremely interesting, and well worth reading.

The book begins with suggestions as to when and where to start in practice, and the first few chapters contain many useful hints as to the suitability of various locations, points regarding partnership contracts and the minimum capital required, all things that may easily prove pitfalls to the unwary. The question of equipment is next discussed in considerable detail and perhaps not quite so sensibly, for while the main channels of necessary expenditure are clearly indicated, with valuable estimates of their probable extent in the average case, a lavish expenditure on printing and medical books is advocated side by side with absurdly minor economies such as the substitution of a 2-volt bulb in the pocket torch when the 4-volt battery begins to run down. An attractive account of the author's own first cases leads to suggestions for the fitting out of the various bags necessary in routine and emergency work, and the book concludes with an admirable chapter on such matters as politics, domestic strife, visiting, and the car, all of which makes most enjoyable reading.

Altogether a sound investment both for those who contemplate practice immediately on qualification and all professional fledglings.

Sailing Club Regatta.

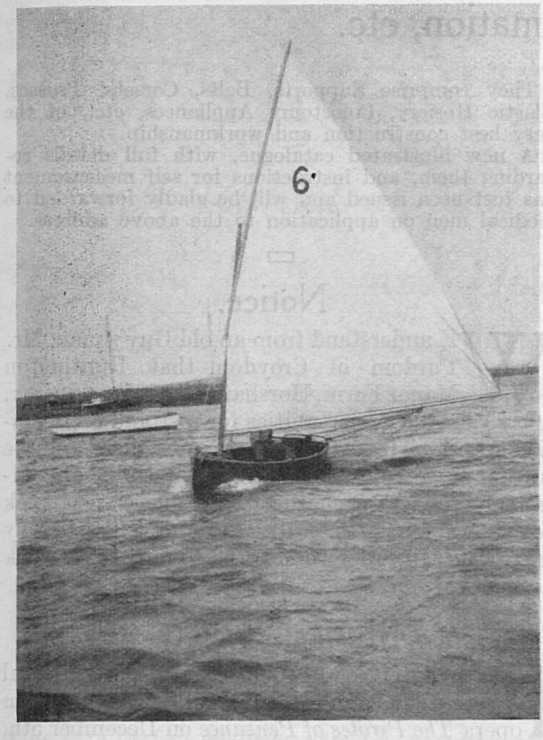
EXTRAORDINARILY bad luck dogged the Guy's team at the United Hospitals' Sailing Club Regatta, which was held on September 1st and 2nd, and resulted in the loss of the Sherren Cup and failure to win the Wilson Single-Handed Cup.

The weather conditions were good, there being a perfectly clear sky and a fairly strong easterly breeze, which was not strong enough to necessitate a reef, and yet was enough to make the boats difficult to handle with a full sail. This fact proved to be one of the causes of our downfall.

In the first race for the Sherren Cup, Guy's boat got completely out of control just before crossing the starting line, and continued to be thoroughly refractory, causing its retirement shortly afterwards, and giving the race to Middlesex.

In the second race Guy's led round the first mark, but again failed to keep the position and finished third, though even this was subject to protest, Middlesex again winning.

The third race provided us with another opportunity for distinguishing ourselves, which we did



"Curlew."

by very cleverly fouling a mark boat, and thus being disqualified. The crew at this stage, having partly recovered from the severe inferiority complex produced by the first three races, managed to get a second and third in the next two, and in the latter of these races the Bart.'s crew reported a complete loss of control on trying to beat to windward and gave up, whereat Guy's people regained some of their lost prestige, since the explanation of our extraordinary performance in the first race had been received by the spectators with no small grain of sod. chlor.

In the last of the six races Guy's and Bart.'s crossed the line too soon and were recalled, allowing St. Thomas's and Middlesex to get a considerable lead. However, at the first mark boat these two hospitals were put out of the race, one by breaking her boom and the other by heavily fouling the mark boat, and Guy's, probably inspired by the arrival of Dr. French, managed to get a first.

SHERREN CUP

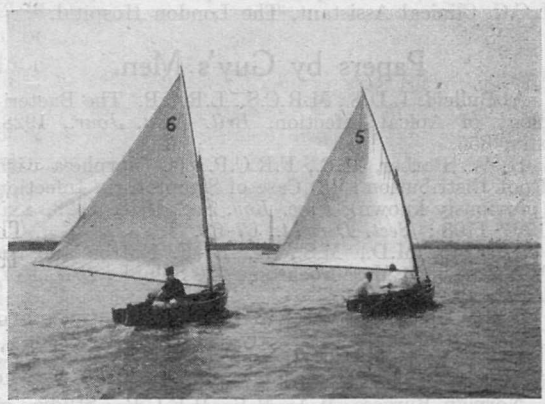
Results

Middlesex	1st
St. Thomas's	2nd
Bart.'s	3rd
Guy's	4th

G. N. Wood, W. H. Bradbeer, J. Bunyan and R. E. R. Palmer formed Guy's crew.

WILSON CUP

Fortune still frowned on us in the Wilson Cup race, for though we had two people, Bunyan and Palmer, in the final of five, the Wilson Cup still remains far from Maze Pond. The first four boats made a good start, being practically in line in the run down to the first mark, and Bunyan being the only bad starter, due to that same curious trouble we had had in controlling the boats. It presumably was due to having the sail hoisted too high in the strong wind which prevailed, the effect being to screw the boat up into the wind and keep her in irons, out of which it was almost impossible to get her, the rudder being utterly useless. Having led round the first mark, closely followed by Turner (Middlesex) and Richards (Bart.'s), Palmer



"Curlew" and "Osprey."

was again overpowered by the boat and returned with difficulty to the committee boat.

Richards (Bart.'s) after a magnificent race beat Turner (Middlesex) by inches, whilst Bunyan made a brilliant recovery and managed to get third place. Eddy (Middlesex) lost a lot of time at one mark by letting go of the mainsheet, and finished fourth.

WILSON CUP

Results

Richards (Bart.'s)	1st
Turner (Middlesex)	2nd
Bunyan (Guy's)	3rd
Eddy (Middlesex)	4th
Palmer (Guy's)	Gave up

The proceedings were enlivened at the start by the spectacular capsizing and sinking of one of the dinghies immediately on leaving the "hard." There were no fatalities.

Hospital Information, etc.

Pass List.

UNIVERSITY OF LONDON.

FIRST EXAMINATION FOR MEDICAL DEGREES

C. J. Evans — A. W. Gibbons
E. D. Falconer — T. H. Hills

SOCIETY OF APOTHECARIES

August, 1928

Surgery

E. C. Gross — C. F. C. White

Forensic Medicine

E. C. Gross

Midwifery

W. A. A. Collington

Appointment.

Oliver Halstead appointed Ophthalmic Surgeon to the Greenwich and Deptford Hospital and Ophthalmic L.C.C. Clinical Assistant, The London Hospital.

Papers by Guy's Men.

A. Bulleid, L.D.S., M.R.C.S., L.R.C.P. The Bacteriology of Apical Infection, *Brit. Dent. Jour.*, 1928, xlix, 855.

H. W. Barber, M.B., F.R.C.P. (1) Morphœa with Root Distribution; (2) Case of Streptothrix Infection (previously known), *Proc. Roy. Soc. Med.*, 1928, xxi, 1707–1708; *Sect. Dermat.*, 67–68.

J. Eyre, M.D., M.S., H. E. F. Notton and Sir Wm. J. Pope. Mercurochrome 220 Soluble, *Brit. Med. Jour.*, 1928, ii, 238.

C. H. Fagge, M.S., F.R.C.S. Branchial Cysts and Fistulæ, *Clin. Jour.*, 1928, lvii, 421.

W. M. Mollison, M.S., F.R.C.S. Some Emergencies in Nose and Throat Work, *Ibid.*, 397.

Norman Burgess, M.A., M.B., M.R.C.P. Studies of Calcium Metabolism in Certain Diseases of the Skin, *Brit. Jour. Dermat.*, 1928, xl, 279.

Change of Address.

M. Mc. C. Baird, M.B., B.S., 1174, 10th Avenue West, Vancouver, B.C., Canada.

J. Mc. F. Pollard, M.D., Garron Dene, St. George's, Cheltenham (on and after October 1st, 1928.).

Carlyle Aldis, M.B., B.S., Weybank, Portsmouth Road, Guildford. Tel.: Guildford 55.

Miss Risdon, 868, Circular Road, Kuala Lumpur, F.M.S.

A. L. Hyslop, L.D.S., 23, Kingston Hill, Surrey.

G. W. Swales, L.D.S., 35, Bridge Road, Welwyn Garden City, Herts.

Miss I. E. Richardson, 11, Orchard Cottage, Ketton, nr. Stamford, Northants.

Major G. Covell, I.M.S., 16, Endsleigh Street, W.C.1.

M. Honigsberger, Bulkington, Nuneaton.

Speciality.

Messrs. H. E. CURTIS & SON, 7, Mandeville Place, W.1

WE would call our reader's attention to Messrs. H. E. Curtis & Sons' appliances, which are advertised in this number.

They comprise Supports, Belts, Corsets, Trusses, Elastic Hosiery, Colostomy Appliances, etc., of the very best construction and workmanship.

A new illustrated catalogue, with full details regarding them, and instructions for self measurement has just been issued and will be gladly forwarded to medical men on application to the above address.

Notice.

WE understand from an old Guy's man, Mr. Purdom of Croydon, that Runtington Manor Farm, Horsham Road, East Sussex, offers splendid opportunities for rest and recuperation after long illness. The food is excellent and the surrounding country delightful, while an extremely moderate charge of 2 guineas per week covers all expenses. Mr. Purdom will willingly answer any questions addressed to him at 75, Park Lane, Croydon.

Musical Society.

IT is the intention of the Guy's Hospital Musical Society to produce the Gilbert & Sullivan opera *The Pirates of Penzance* on December 5th, 6th, 7th and 8th at the Rudolf Steiner Hall, which is easily accessible from all parts of London and suburbs.

Further details will be issued shortly, but this early announcement is made so as to enable all the patrons of the Musical Society to note the dates. The Rudolf Steiner Hall is at Park Road, Regent's Park, and is close to Baker Street Station. The numbers of the buses passing the Hall will be given with full particulars in due course.

Birth.

WALTERS—On August 28th, 1928, to Edith, the wife of Lewis Walters, L.D.S., R.C.S.Eng., at 24, Bargoed Terrace, Treharris, Glamorgan—a son.

Deaths.

PHILLIPPS—At "Seafield," Paignton, South Devon, on September 12th, 1928, of Dr. William Alfred Phillipps, M.D.Brux., L.R.C.P.Lond., M.R.C.S.Eng.

HUGHES—On September 6th, 1928, of Dr. Frank Percival Hughes, M.D., B.S.Lond., of The Grove, Pinner, Middlesex.

NICHOLLS—On September 1st, 1928, of Dr. Francis John Nicholls, M.D., B.Ch.Camb., of "Fairmead," 46, The Goffs, Eastbourne, Sussex.

GREY—On August 10th, 1928, of Dr. Egerton Grey, of the University of Cairo, Egypt.

EDS. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

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PASSIM

IT might almost be said that, while some are born to medicine and many more achieve it, a few have medicine thrust upon them. The first are to be envied, the second congratulated, while the third excite only pity. For above all other arts that of medicine demands extreme self-sacrifice and unselfish energy from its devotees, and allows no half interests in its profession. So, for their own sakes, we hope that medicine has not been thrust upon a large proportion of the record entry to the Hospital this month. It is interesting to speculate on the feelings of a newcomer to Guy's, as, having passed through the iron gates and by Thomas Guy on his pedestal, he approaches the architecturally attractive proportions of the entrance to the Colonnade and comes into the shelter of the Front Lodge and under the stern gaze of Whitbread. Although the agony of raw shyness which chokes the new boy at school is lacking, yet the feeling which replaces it is usually one of a certain anxiety since the future is so very full of doubts and difficulties. For those who, since tender youth, have been brought up with the idea of a future medical career before them firmly fixed in their minds, the difficulties are less. By the time they are popularly supposed to be able to think for themselves, all power of envisaging any other career is lost. They enter Guy's with the same single-minded spirit, looking upon the place as a shell, which, worthily or unworthily, houses the kernel of their aspirations. For those, too, in whom some elementary teaching in chemistry or biology while still at school has started an earnest interest in the art of medicine, the path is fairly smooth. They pass through Guy's without noticing very much, though feeling vaguely grateful for being enabled to carry out their medical training there. But for those who take up medicine because it is " an amusing job " or " a good life," or because it saves them from going into the paternal or avuncular office, the way is a thorny one. They enter Guy's in the same spirit as they do everything else, one ranging in flight from enthusiasm through indifference to distaste and back again. But, very fortunately, none of these cultures, to speak bacteriologically, are pure strains; when planted on a suitable hospital medium they flourish luxuriantly as a mixed growth. And that is what will happen to those coming up to Guy's this month. They will to a large extent be absorbed into the life around them, but they will be encouraged rather to exert their individualities than to sink them for the public good. Above all, they will enjoy themselves enormously and flourish exceedingly. Whether they come from the 'varsity or from school, whether they be æsthetes or " hearty " men, they will find something to their liking, something to think about, something to do. Besides medicine, surgery, and other oddments set out at some length in the following pages, Guy's provides every sort of entertainment from singing to sword-play. If the men to whom this number is addressed ever read it right through, they will find a perfect well of advice and information, which is worth plumbing to the depths. Conventional some of it may sound, redundant some of it may be, but it is full of good sound sense, and will repay them in full. And those who cannot bear to be anything but unconventional may comfort themselves with the thought that it is rapidly becoming positively daring to be con-

ventional. That this number of the GAZETTE should boom with magisterial admonitions, and resound with editorial pratings and the clamour of Club secretaries, while on its covers the publishers of books and makers of instruments court custom with even more than their usual energy, is some slight indication of the importance of the newcomer. He may, indeed, thank Heaven that all this annual fuss goes no further, that he is neither styled "fresher" nor hailed as "new chum," that his verdant innocence is not exposed at some impossible "social," and that, in pathological terms, his absorption is accompanied only by a slight effusion.

OUR thanks are due to those members of the Hospital Staff who have so willingly given of their spare time to provide the newcomer in the various Departments with the sound advice and cordial welcome embodied in the following pages. The article on the Medical Profession is from the distinguished pen of the late Stephen Paget, F.R.C.S., whose success as a writer was only equalled by the brilliance of his career as an aural surgeon, and among whose many activities are numbered a biography of John Hunter and the foundation of the Research Defence Society.

WE note on going to press that the Pupils' Physical Society is about to re-commence activities with a meeting under the chairmanship of Sir Charters Symonds, and at which Dr. A. H. Douthwaite is giving an address on "General Practice." This important side of medical life tends rather to be forgotten in the ordinary course of hospital routine, a fact which renders its selection as a subject for the opening discussion all the more valuable.

IN a recent Passim we announced that the President of the Lawn Tennis Club had presented a cheque towards the cost of a new hard court. Tennis players will now be interested to hear that the remainder of the sum necessary for the laying down of the court has been granted by the Clubs' Union Council.

THE appearance quite recently in a well-known daily paper of an advertisement requesting the services of a sword swallower as part of a scientific investigation forms a very curious coincidence with a feverish renewal of activities on the part of one of our best known physicians. He shall be nameless, but his enthusiasm for the intubation of the upper alimentary tract has infected most of us at one time or another with a fervent desire to endure great personal discomfort in the cause of research. Perhaps we are on the verge of auto-internal surgery as a treatment for pyloric obstruction.

THE list of distinguished invalids seems to have lengthened considerably during recent weeks, and now includes Mr. L. G. Housden, whose notable connection with the GAZETTE and its Bicentenary number will long be remembered. We should like to offer the "warded" our sincere wishes for a speedy recovery and rapid return to hospital or practice, as the case may be.

WE offer hearty congratulations to the following on being selected Clinicals for the period October 16th to January 16th :—

Mr. F. W. Gilbert.
" J. C. Heather.
" W. D. G. Jones.
" K. E. Lane.
" E. H. Sears.
" T. T. Stamm.

Notices.

GUY'S HOSPITAL MEDICAL SCHOOL

THE following Senior Science Scholarship awards have been made :

War Memorial Scholarship (£100)—

Hedley John Barnard Atkins, Trinity College, Oxford.

Open Senior Science Scholarship (£80)—

Maurice John Leopold Burtenshaw, Exeter College, Oxford.

T. B. JOHNSTON,
Dean.

Guy's Hospital, S.E.1.
September 26th, 1928.

WE would recommend readers, and especially new students, to turn to the advertisement pages of this special issue of the GAZETTE in which they will find various publishers' announcements of books, as well as advertisements of instruments, appliances, etc. Cases of instruments should be purchased from well-known firms, and students especially are warned against buying second-hand microscopes, etc., which would be a handicap to them throughout the whole of their career at the Hospital. The difference in price between a good and a bad instrument is only a few pounds. All second-hand microscopes especially should be submitted to the Demonstrators for inspection and examination of lenses before the purchase is completed.

Papers by Guy's Men.

G. B. Dowling, M.D. (1) (?) Dermatitis Vegetans; (2) Ear Condition in a Case of Raynaud's Disease, *Proc. Roy. Soc. Med.*, 1928, xxi, 1765–1766; *Sect. Dermat.*, 77–78.

Chas. E. Gallagher. On the Examination of the Fæces in the Diagnosis of Phthisis Pulmonalis, *Metropolitan Asylums Board Annual Report*, 1927–28.

W. M. Mollison, M.Ch. Dysphagia Due to Pharyngeal Paralysis, *Ibid.*, 1777; *Sect. Laryngol. and Otol.*, 79.

Sir Charters J. Symonds, K.B.E., C.B., F.R.C.S. Use of Clover's Inhaler in Tonsillectomy and Removal of Adenoids, *Brit. Med. Jour.*, 1928, ii, 581.

C. P. Symonds, M.D., F.R.C.P. Some Late Effects of Head Injuries, *Clinical Jour.*, 1928, lvii, 445.

Appointments.

Chas. E. Gallagher, M.R.C.S., L.R.C.P., E.C.S., Assistant Medical Officer, Leavesden Mental Hospital.

Robert D. Owen, F.R.C.S., has been appointed Senior Surgeon-in-Charge of the Ear and Throat Dept., at the Cardiff Royal Infirmary.

D. J. P. O'Meara, F.R.C.S.(Edin.), appointed Surgeon to West Suffolk General Hospital, Bury St. Edmonds.

Change of Address.

E. C. Warner, 28, Devonshire Place, W.1. Telephone: Mayfair 3647.

D. J. P. O'Meara, F.R.C.S.(Edin.), The Acacias, Bury St. Edmonds, Suffolk.

James B. Howell, Fern Cottage, Clay Hill, Lyndhurst.

R. Jarman, 105, Harley Street, W.1. 'Phone: Ambassador 9791.

The Medical Profession.

By the late Stephen Paget, F.R.C.S.

BACON calls it Heaven on earth, for a man's mind to move in Charity, rest in Providence, and turn upon the poles of Truth. And it is certain that our profession gives us two of these advantages, and leaves us free to enjoy the third. But, on the other side of the account, we have our grievances. Few, very few, of us win the high prizes of this world; many of us are beaten, and that not all through our fault; many of us break down in health, or die before our natural time, and leave not enough for the children. And, what is hard to bear, we are exposed to the winds and the tides of gossip and of prejudice, and to the tongues and pens of cocksure critics, such as Mr. Bernard Shaw, who appeals to the classes, and of Mr. Ben Tillett, who appeals to the masses, and Mr. and Mrs. So-and-So, who appeal to anybody who will listen to them. Moreover, we have to work, many of us, under half-educated Local Authorities, who cannot clearly see the importance of our work, or are dazzled by the sight of their own importance; we learn "the proud man's contumely, the insolence of office, and the spurns that patient merit of the unworthy takes." And so often, our mistakes and our lapses are magnified and our many excellencies are dismissed as matters of course.

But, Heaven be praised, there is contentment to be found along the dusty high road of the doctor's life. A wise man, whose wife, by her ill-temper and her vagaries, rendered his life a series of disconnected shocks, consoled himself thus, "At any rate, she is never dull." So it is with our work. There is always something to be made out, learned, experienced, recorded. It may be in physiology, pathology, medicine, surgery; it may be even in that dim region where the psychologists feel at home; or it may be something in pure humanity, some revelation of the good or of the evil in man or woman.

Indeed, of all that we learn in practice, I reckon this to be one of the most important lessons,

that we learn men and women. Of course, we do not get far in this mystery, nor does any profession. We die of old age long before we have learned men and women. Still, we do have a try, we do begin. It is a fine subject, so difficult that nobody dares to suggest that we should be examined on it, so necessary that nobody can regard it as optional. Fools of the deepest dye fondly imagine that they are what they call "good judges of character." There are fools who will tell you the exact reasons of your own thought, word and deed; they will estimate, measure and explain motives and instincts, and passions and sorrows; they will prophesy what you will do next, and will tell you precisely what you would have done yesterday if you had not been thinking of something else. Beware of this conceited and slipshod state of mind; keep always before you the supreme difficulty, the absolute necessity, of trying patiently and humbly to understand, just a little, your fellow man. I am reminded of that curious phrase used, in one of the Gospels, of Christ, "He knew what was in man." To hear some people talk one might think that such knowledge came natural to them.

Practice, I am sure, does help us, so far as we are helpable, to learn men and women; and that is enough, of itself, to make us glad of our profession. This learning is essential to the proper treatment of our patients; and, if we have not, the extent of our work is imperfect, though it should cover all the way from Æsculapius to Sir Almroth Wright. Truly, this insight, or wisdom, or judgment, or whatever we ought to call it, is the very making of the best sort of practice; it keeps us from any close resemblance to a tradesman serving a customer.

But we enjoy in practice not only the pleasure of understanding our patients, but the pleasure of pleasing them. Of course, now and again, we come across some ungrateful blockhead, or some stingy person who pays for his life as it if were a suit of clothes, but we do at last become, if we deserve it, singularly happy in people's gratitude and friendship. Indeed, it is so easy for us to gain this happiness, that we hardly trouble to count our winnings.

Still, in this amazing world, nobody gets all that he wants; the world could not go on if we did; it would not be the world at all, it would be something else—mostly hell. None of us must imagine that he will ever be rich, or famous, or leisurely, or fashionable; each of us must make up his mind to carry about with him, always, a heavy burden of care, disappointment, and uncertainty till he retires, which is a joyless time for most of us, or, what is more probable, till he lays down his burden at Death's feet.

Well, then, shall we try something else? Shall we give up the whole thing? Think well, before you do that. A few of us doubtless, ought to do it. Their true vocation is waiting for them, in the divine Providence, somewhere round the corner. They made a mistake when they chose to be doctors; they had better correct it without delay. But every profession or business has its drawbacks, its long stretches of waiting, its years of drudgery; and he who leaves our profession for any other may be throwing away the substance for the shadow.

For we have this substantial privilege, that we are, or ought to be, both artists and men of science. Like a child on a swing hung between two trees, so we disport ourselves between the Tree of Knowledge and the Tree of Life. Happy is he, says Lucretius, who has been able to find out the causes of things; and we are really doing that. The causes of things have a most unkind way of receding beyond our grasp; they slip away a little deeper just as we discover them; still, we have the happiness of the quest—we are always discovering where to look for them. And this quest, which is our science, goes hand in hand with practice, which is our art.

Artists, mostly, perform on such instruments as marble, canvas, or instruments of music; we, and we alone, perform on man. This perilous honour, this immeasurable responsibility, is given to none, save only to us. No wonder that young doctors are apt to look solemn; that is how they feel, and I should be sorry to see them looking otherwise. It is no more than ordinary decency that he should wear a serious face, whose art is practised on the living and sensitive bodies of men, women and children; his works of art are those bodies restored to health, and his mistakes may be their death.

Therefore, let a man who intends to enter our profession examine himself; let him not wait for the examiners to do it for him. Let him ask himself, as it were on his knees, not, Is practice good enough for me? but, Am I good enough for practice? It is fairly certain that the answer will be in the affirmative; still, he ought to ask the question.

It is not, as affairs are now, a clear outlook for him; this bewildering year has been so full of surprises that nothing has been clear, except the weather. The old landmarks have been moved; the old order changes, giving place to a good deal of disorder, and our profession is peering this way and that, trying in vain to see what is

going to happen to it next. The old individualism, the old personal authority of the doctor, begin to be called in question; indeed, to many of the public, they have the air of some Georgian portrait, some "doctor of the old school," with knee-breeches and frilled shirt complete, and with a very septic tail coat buttoned tight across him. To-day, more than ever, we are servants of the public, and they talk of running us as a national interest, like railways or the British Museum, till we are apt to think that we are as different from the doctors of the old school as a man in khaki is different from a man in armour.

But, as a matter of fact, the essential qualities of the doctor's life are not affected by medical politics, nor by democracy, nor by any amount of National Insurance Bills. No power on earth can reduce a man's individualism and authority, so long as he is strong enough to hold and exercise them. Only, to be strong enough, he must work hard, year in year out, till he has so established his position in practice that it cannot be taken from him. That is what it is to be successful in our profession. The successful doctor may or may not make a large income; he may or may not make a great name. But he is independent of the opinions of lesser men, he is indifferent to their criticism; he has authority, and makes good use of it; he loves his work, and we might say of him that his kingdom is not of this world, for it is founded on a thousand acts of most unworldly kindness and goodwill. And, as he thus expends himself, so he is paid back, more than ever comes to his knowledge.

Guy's Hospital Gazette.

The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

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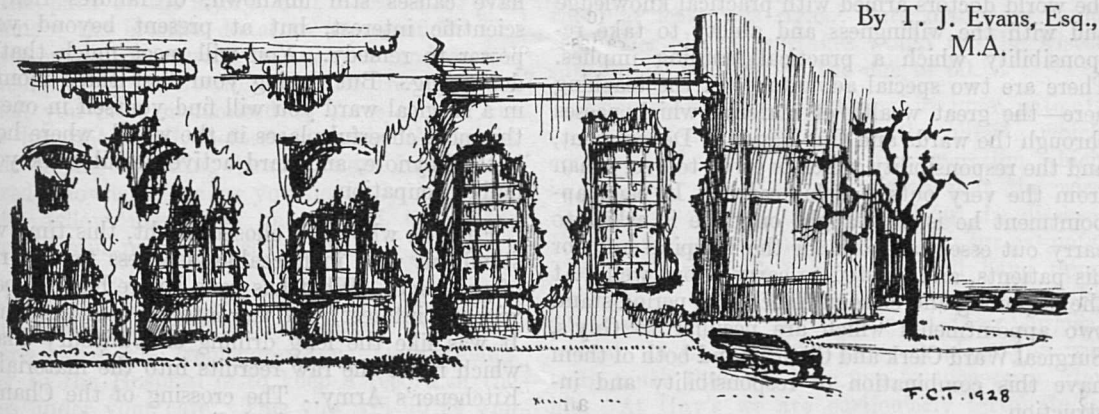
To Those Undertaking The Pre-Clinical Sciences.

By T. J. Evans, Esq., M.A.



OLD readers of the GAZETTE may remember a valedictory letter from a graduate in his first billet, who thanked his stars that he had already cleaned his mind of the last traces of certain biological facts inflicted on him in his first year as a student, and called the same stars to the rescue of future victims. It is commonly assumed that Freshmen regard the few rudiments of pure science which they are doomed to acquire as a necessary evil, invented by the licensing authorities of medicine. It is also a custom to remind you that a little science is salutary, and

that, if you take your aperitif without wincing, you will the sooner proceed to the real stuff of the meal. This attitude of apology for the pure sciences is a poor welcome to a school whose business is the extension and application of chemistry, physics and biology. The whole body of a living man is a balanced assemblage of chemical and physical experiments, and the whole art of healing is a physical and chemical attempt by physical and chemical means to restore this balance when it goes wrong. Moreover, all bodies and their make-up of tissues, whether ill or well, are behaving biologically. You can therefore never know enough of the sciences you must spend your lives in applying. Make the most of the all too short year allotted you for their acquisition.

It is well to understand that the bulk of knowledge to be acquired in your first university year is larger than any year's work you have tackled before, and each year's work goes on increasing. This demands a good method of study. Each man, unless he has been lucky enough to find out at school, must work it out for himself. Listening to lectures is one way of learning, and by itself the least efficient. By reading text books and writing out notes and tabulations the eye reinforces the ear, but the laboratory is the great place of study, because there alone are the real things. The sin of the laboratory is pottering, and the besetting vice of the student at home is desultory reading in the armchair. Read at a table, pencil in hand. Short intent hours are worth whole evenings over the fire.

Finally, keep yourself fit. Join the clubs and play, Honor Oak, the gymnasium and the swimming bath are the best approaches to the laboratory and the lecture room—which is only a paraphrase of an old wisdom.

To Those Entering the Surgical Wards.

By Mr. W. H. Ogilvie, Assistant Surgeon to Guy's Hospital.

GUY'S HOSPITAL rightly enjoys a world-wide reputation as a medical school, which for generations has sent into all parts of the world doctors armed with practical knowledge and with the willingness and ability to take responsibility which a practical training implies. There are two special advantages of the teaching here—the great wealth of material which passes through the wards and Out-Patients' Department, and the responsibility which is given to every man from the very outset of his career. In each appointment he is not taught only, he is asked to carry out essential work for the Hospital and for his patients, and trusted to carry it out well. At the beginning and close of the clinical period stand two appointments which are peculiar to Guy's, Surgical Ward Clerk and Clinical, and both of them have this combination of responsibility and instruction.

It is on the surgical side of the Hospital that you who are now entering the wards will first encounter the practical side of the profession you have adopted as your life's work, and the human material with which that work is to be carried out. It is as well that it should be so, for here the issues are clearer. Later will come the study of prolonged and progressive disease, of those degenerations which follow upon misspent lives or have causes still unknown, of failures rich in scientific interest, but at present beyond your power to remedy. You will meet much that is depressing. But during your first three months in a surgical ward you will find yourself in one of the most cheerful places in the world, where hope is the keynote, and hard active useful work your daily occupation.

For you who have chosen aright, this time will stand out with ineffaceable clearness for the rest of your lives. What has gone before has not been without interest, but the interest was academic. It was like the long drilling on Salisbury Plain, which made the raw recruits into the material of Kitchener's Army. The crossing of the Channel took them from make-believe to real war, the actuality for which all the drill had been a preparation. The rehearsal was over, the curtain was up. And so, in a surgical appointment, you are suddenly in the midst of real life. You are confronted with accidents, sudden infections, grave calamities. In the main it may be said of

the patients whom you will encounter, that they are healthy, normal, sane individuals, struck without warning by some sudden misfortune. You are present at this crisis in their lives, and it is in your power to help in fighting it. There is something to be done; and when it is done it is your privilege to see the rewards of victory—the quick recovery and the return of hope.

There is another advantage of starting your career on the surgical side. You are introduced to disease in a comparatively simple form, and the knowledge of anatomy and physiology which is fresh in your mind enables you to grasp very much of what you encounter without the need of lectures or text books. Very much of surgery deals with local disease, that is to say, there is one faulty structure in an otherwise healthy body. Given a thorough knowledge of anatomy and pathology the teachings of surgery become self evident. Surgical diagnosis is little more than the answering of two questions—what is the anatomical structure involved and what are the pathological processes that have caused the trouble? A man has thrust his arm through a window and a piece of glass has penetrated the forearm. The first question that faces you, "What structures would be encountered from without inwards if an incision were made in such a situation?" is one that you might reasonably be expected to answer in an anatomical paper. The second question, "Which of these structures has actually been divided?" means an investigation of the sensation of the different nerves, and the movements carried out by the muscles and tendons which lie in the path of the injury, and a search for pulsation in the arteries distal to the wound. The treatment is an exercise in anatomy and craftsmanship, very interesting, because the relations which you have memorised by force of will are now brought vividly before you under the bright ight of the operating lamp. Your hardly acquired knowledge makes you not only a sympathetic fellow man, but one skilled to restore function and promise recovery to the patient.

During these three months you will work very hard, probably harder than you have ever done before, but it is all tremendous fun. Your primary duty to the Hospital is to keep a record of the cases under your care. This you will do as well as possible, both for your own sake and because on the accuracy and lucidity of your account will depend the value of the record in years to come should the same patient be readmitted or should a series of similar cases be investigated for statistical purposes. Besides clerking, however, you will be expected to help in every activity of the firm to which you are attached, from carrying patients to making tea in the dressers' room during "take-in." This appointment is your great opportunity for making yourself proficient. You should familiarise yourself with the somewhat elaborate routine of modern asepsis. You should take every opportunity to watch the dresser looking after your cases, for in the next appointment you will be a dresser yourself, and will be expected to know your work. It is the privilege of the beginner to ask questions, and this you should do in season and out of season. All knowledge which you acquire will stand you in good stead as a dresser, and as a dresser you will have more work to do yourself and less opportunity to learn by watching that of others.

You will go to bed very tired, and you will find little time to read. Do not therefore make any attempt to work through a surgical text book, but read up your own cases carefully. True surgical knowledge is part of your own self, and is based upon a memory of individual cases followed through and committed to memory. To be thus remembered each case must be a clear cut picture; therefore begin at once to form the habit of definite decision. At this stage it is far better to be certain than to be right. To begin with, you will have but little knowledge, but with what knowledge you have examine each case, make a definite diagnosis, and decide what treatment you would adopt. Whether the outcome proves you right or wrong, you will remember it, and you will have learned something in the process. But if you allow yourself alternatives you may be tempted to the complacent reflection that one of them at least was right. Any man who could remember all his mistakes would be the wisest surgeon in England at the age of 60.

Be interested in everything, in your patients and your fellows; no less in the nursing which completes the cure than in the operation which initiates it. It is an old saying that the wise doctor treats the patient as well as the disease. Enter into human relationships with your patients. They will call you doctor and will hang upon your words, and there is much you can do to make them well besides ministering to their surgical wants. In this side of your work alone you will learn much that will help you to success in ater life. At Guy's we are particularly fortunate in our patients. There is no foreign quarter in the Borough, no shifting population. British dockers, navvies, carters, factory hands and their wives and children, come into our wards to be made well. They are fine people and proud of living round the best hospital in England. Their happiness and our good name are in your hands.

To Those Entering the Medical Wards.

By Dr. A. H. Douthwaite.

ON entering the Medical Wards you will at last come in contact with the complex problem of sick human beings whom you must study as a whole, rather than in the isolated sections which have characterised your earlier investigations.

Your natural relief on escaping from the immense curriculum of pre-clinical study will, however, be tempered by the realisation that a haze of empiricism enshrouds our therapeutic efforts, and many measures, and indeed diagnostic signs, cannot as yet be explained in precise terms of reference to anatomy or physiology. However, here perhaps lies the overwhelming fascination of medicine, in that even in the commonest diseases finality has not been attained, and vast scope for useful research is presented to you from the moment you have learned how to examine a patient.

As regards the arrangement of your work, concentrate for six months on the study of physical signs and their interpretation; apart from this, read pathology only. An early grasp of this subject must obviously help you to master the essentials of clinical medicine, for from the study of morbid processes the main symptoms of disease can be deduced. The post-mortem room should be visited frequently, for not only does an autopsy provide lasting visual impressions of the ravages of disease, but also the merciless exposure of diagnostic failures has a salutary effect which it as well to ponder upon.

The outstanding characteristic of this Hospital, probably peculiar to Guy's, is that responsibility is invested in you from your position of Ward Clerk onwards. Your reports may be referred to 30 years hence, and their degree of accuracy may make or mar an important piece of research. Reliance is placed upon your investigations and repeated examinations in order to arrive at diagnosis, and failure to fulfil this function may mislead to the extent of endangering your patient's life. Remember, then, that painstaking clinical work is the first and foremost necessity, not only for the good of the Hospital, but also in rendering you efficient and capable of meeting your examiners with equanimity.

Finally, as a relief from this exhortation, let us impress upon you the necessity of taking good holidays every year. Your work is hard, and you are constantly exposed to infection. Avoid the common mistake of thinking that you are superior to the ubiquitous microbe; this fallacy has ruined the career of many enthusiasts. To despise relaxation will not further your interests, but will ultimately reduce your capability of performing good work.

In closing, we welcome you most warmly to the happiest years of your lives.

The Medical Curriculum.

1. The Sciences.

THE matriculated student will, in his first year, study Inorganic and Physical Chemistry, Physics and General Biology, and at the end of this period, provided he has worked diligently in the laboratories, and attended the Lectures and Revision classes regularly, should have no difficulty in passing the First Examination for Medical Degrees. In his second year he will study Organic Chemistry, together with Anatomy and Physiology, and at the end of the second winter, provided, as before, that he has worked steadily from the commencement, should have little difficulty in passing the First Part of the Second Examination for Medical Degrees. Anatomy, Physiology and Pharmacology are then taken as the Second Part of this Examination at the close of the third winter, prior to commencing Clinical work in the wards.

From Medical and Dental students who are preparing for the Premedical Examination only six months' work is required, but those entering without previous knowledge of Chemistry and Physics will find that time hardly sufficient, and are usually advised to take the full "year" of three terms, or nine months.

The importance of practical work cannot be too greatly emphasised, and lectures and books can but supplement work done in the laboratory. Guy's men have no excuse for neglecting laboratory work. Students are strongly urged to form

early the habit of spending their spare hours, apart from those officially allotted, in one or other of the laboratories. Reading should be left for the evening. After a day in the laboratory, reading a good text book will be found to give ample scope for thought. "Cramming," or the memorising of words and phrases, without a knowledge of the corresponding realities, is one of the worst intellectual habits a student can acquire, and in the long run invariably leads to failure.

CHEMISTRY AND PHYSICS

The student is often tempted to regard the study of Chemistry and Physics as one of very little use when once his preliminary examination is passed, but he will find in his study of the sciences of Physiology, Pharmacology and Pathology that a proper understanding of Physical and Organic Chemistry and Physics is invaluable and essential. That this is so is now fully recognised in the London University curriculum, which should be carefully studied by every London student.

BIOLOGY

Biology, like all the sciences, is properly studied in the laboratory, because things seen are better understood and remembered than things read or heard. Animals and plants are the true sources of a knowledge of biology, and more correct than the text books written about them. Acquire, therefore, the laboratory habit and record carefully what you observe. Use your books as reminders of the things seen. Draw much. It saves you from the habit of verbal memorising. The drawing of a diagram is the best way of testing the accuracy of one's knowledge in a descriptive science like biology. In the laboratory are also demonstrators whose duty it is to clear up your difficulties. Equip yourself with the necessary instruments. A microscope is needed at once. Its purchase requires care and advice. Students have been known to saddle themselves with an instrument that gives them unsatisfactory results for a whole year, and gets condemned in a later microscopical course. This is poor economy, as the difference in price between a good and poor microscope is small. If you are buying a secondhand instrument, bring it to the laboratory for examination by the demonstrators before you complete the purchase.

ANATOMY

The primary object of dissecting is to render oneself familiar with the structures of human anatomy and their relationships one to another. A good knowledge of human anatomy is essential to the medical student, owing to the great scope for application of this knowledge which is provided by medicine and surgery, and it is no exaggeration to say that the better a man knows his anatomy the more likely is he to succeed in these subjects. By handling and tracing the structures exposed in dissections, the student is enabled to form mental pictures which greatly exceed in value the plates and diagrams to be found in books, and it cannot be emphasised too much that the knowledge obtained by dissecting is more thorough, more lasting and more definite than the knowledge obtained by text books, however good the latter may be.

In addition, dissecting trains the fingers and develops the sense of touch and that delicate muscle sense which is so necessary to aid the eye in carrying out a delicate manipulation.

The basis of anatomical knowledge is a thorough acquaintance with the bones. These can only be learnt by handling the bone and making out each point on it as the description in the book is being read. Hence, it is very desirable to possess a half skeleton. (This may be had from Mr. Walker, the Senior Assistant in the Anatomical Department, who will also supply cases of instruments.)

Full use should be made of the Specimen Rooms and of the famous collection of Wax Models in the Gordon Museum. The latter are quite unique and of great value to the student who is revising his work.

Men who intend to take the Primary Examination for the Fellowship of the Royal College of Surgeons should attend both the course of Lectures for senior students in the second winter session—for time, *vide* notices—and also the special class for the Primary Examination.

Books and Instruments

The student requires a Manual of Practical Anatomy, in which the structures are described as they are exposed in the course of dissection. The best book for this purpose is Cunningham's *Practical Anatomy* (3 vols., 12*s*. 6*d*. each); it should be read before, during and after each day's work.

In addition a text book of Human Anatomy, in which the subject is described by systems, is necessary. Gray's and Cunningham's text books are both good.

Men who think that they may want to take the Primary Examination for the Fellowship of the Royal College of Surgeons will require a book dealing with Embryology and Morphology, and they will find that Keith's book on the subject contains all that is essential.

The following instruments are necessary: Three scalpels, two pairs of *dissecting* forceps, and two sets of "hooks." No other instruments are required.

Dental Students

The detailed knowledge which is demanded of the medical student is essential for the dental student only as regards the head and neck and the bones of the skull. Special demonstrations are arranged each term suitable to the requirements for the L.D.S. and B.D.S. Examinations.

PHYSIOLOGY

Physiology, which forms the basis upon which scientific medicine, surgery and midwifery rest, will require the most earnest attention on the part of the student during the short space of two years which he can devote to it, and he will find that his understanding of the medical, surgical and pathological problems which he will meet later on varies directly with the thoroughness of his physiological ground work. Some elementary work on the subject such as the book by Bainbride and Menzies should be read in order to obtain a general knowledge of the scope of the subject.

The student should attend the Lectures on Physiology—for times, *vide* notices—and also the tutorial classes, which are held by the demonstrators. During this time he should read the subject in some text book such as Starling's *Principles of Human Physiology*, Halliburton's *Handbook of Physiology*, or Howell's *Text Book of Physiology*. While attending the practical classes held during the winter, the student is advised to read *Practical Physiology* (published by Arnold).

Physiological Clinical demonstrations for senior students are held each week.

Candidates for the M.B. of London or other Universities must in addition attend the class in Advanced Practical Physiology, held twice a week during the second winter session, and this class should also be attended by men working for the first F.R.C.S. examination.

Those desirous of obtaining a wider knowledge should supplement the course of reading indicated above with original papers in the *Journal of Physiology*, with parts of *Recent Advances in Physiology*, by Lovatt Evans; *Principles of General Physiology*, by W. M. Bayliss; and *Applied Physiology*, by Samson Wright. Revision classes are held by the Demonstrators during the two months preceding the first F.R.C.S. and the M.B. examinations, and should be attended by all candidates.

A special course is held for candidates for the Honours B.Sc. of the University of London.

2. Pre-Clinical Period.

THE extension by the Examining Bodies of the student's curriculum of study has allowed the addition of an extra period of three months preliminary instruction before the student actually embarks on his duties in the wards.

It has long been felt that the time allotted to the study of Medicine, in the limited sense, has of late years been encroached upon and curtailed by his duties in the Surgical Wards and the Special Departments, and the opportunity was gladly seized of redressing the balance by giving him extra tuition in medical subjects.

The object of the Pre-Clinical Period is to instruct the student in the routine methods of examination of patients and in the detection and interpretation of physical signs, so that on his entry into the Medical Wards he will be able immediately to derive full benefit from the teaching of the Registrars and Physicians without the laborious explanations and tedious insistence on elementary points necessary before the introduction of the scheme.

In addition to this instruction, which he receives from the Clinical Tutor in charge of the course, the student gets a course of Clinical Chemistry from Dr. Ryffel and Dr. Knott, Elementary Pathology, Minor Surgery and Bandaging from the Surgical Registrars, and instruction in the methods of examining the eyes, ears, nose, etc., from the heads of the departments concerned.

3. The Wards.

SURGICAL WARDS

THE appointment of surgical ward clerk is the first of the appointments held by the student during his Clinical training. In many ways it is the best of all the appointments, as most of the teaching, both by the Surgeon and the Registrar, is for his special benefit. Furthermore, a reputation for keenness and ability earned in those early days will follow him and help him throughout the rest of his time at the hospital. Each clerk is attached to one of the surgical units for three months, and it is his duty to record the history and progress of the cases allotted to him.

The wards are open to the student at 10 o'clock, and he should have written up the history of the

case and, as far as possible, have examined the patient before the Registrar of the unit begins his round at 10.30, when each case is discussed and the report of the clerk confirmed or amplified. The student during this period will do well to confine most of his attention to the detection of the physical signs, and should procure from the Medical School Office a copy of the red book entitled *Instructions in Case-Taking, Surgical*, which he will find a very good guide to sound and systematic examination of the patients.

While he is acting as ward clerk the student attends a course in Elementary Pathology and Pharmacology, and at the same time has unrivalled opportunities of seeing dressings and operations, more especially during his "take-in" week. There will be much hard work and many late hours, but there will be also incalculable compensation in seeing and learning the practical points that will stand him in good stead. He is doing his own work of ward clerk, but must remember that he is learning also to be a dresser.

As a dresser the student spends two periods of three months. While the surgical work is very dependent on the dresser for its smooth efficiency and good results, the dresser must realise that he himself is very dependent upon his work, for it is during these six months that he lays the foundation of his surgical knowledge and sound after-care. Someone has said that every surgeon should be his own dresser, so that the dresser must appreciate the responsibilities that he assumes in thus deputising for his surgeon.

We have said very little about the actual tasks of the dresser; he should read the "standing orders" relative to his appointment, and from then on everything depends upon himself. He has been given a valuable appointment and one difficult to do well, but one that repays hard work almost more than any other appointment he can hold.

MEDICAL WARDS

To each medical ward clerk is allotted a certain number of beds, and he is expected to examine and write full reports on all patients who are admitted into these. Occasionally, it so happens that a patient is too ill to be examined except by the House-Physician and Physician, or that a case dies before the ward clerk has had an opportunity of seeing it. Under these circumstances he should obtain the history and an account of the symptoms, physical signs and progress of the case from the House-Physician, and should base his report on these data. It cannot be too strongly insisted that a report, however brief, must be written on every case, and it is of the greatest importance that *the diagnosis and remarks made by the Physician should be entered at once into the report.* Moreover, any errors detected by the Physician or Registrar in the original report should be immediately corrected. In the event of a patient dying, the ward clerk must obtain the abstract of the post-mortem findings and carefully enter it up, and it need hardly be said that all clerks should make every effort to see the post-mortem examination of any case they may have seen during life.

The medical wards are open to clerks from 10 till 12 noon, and from 1.30 till 6.30 in the evening. The Registrars begin their rounds at 10.30, and by that time a clerk should at least have full notes of the history of any new patient who may have been admitted into one of his beds, and he should have a full report in readiness for the Physician in the afternoon. Ward clerks should realise that they are expected to know the details not only of their own cases, but of every patient under their Physician. It is no excuse to plead ignorance because "this is not my case." If only a clerk will take the trouble to make himself conversant with each case in this way he will find at the end of his six months that an enormous amount of clinical material has passed through his hands, and he will probably have acquired enough knowledge of medicine to enable him to pass the Conjoint Final with but little additional reading. But so many men waste their time through sheer laziness in the medical wards, never realising that they are throwing away experience which would prove invaluable to them later on.

Again, the curriculum provides but six months for the study of pure medicine, whereas nine months are allowed for the pursuit of surgical appointments. Further, during their period of medical clerkship men are apt to take more time than is justified for the study of Pathology and Bacteriology, which they have neglected whilst in the Surgical Wards.

An hour spent in the wards after tea three or four times a week will give opportunities not only for going over cases and writing up reports, but also for seeing the House-Physician tap chests and abdomens, etc. The treatment, too, which each case is receiving, may well be studied at this time.

With the present shortage of beds no opportunity of gaining clinical experience should be missed, and many of the most interesting and important medical cases can be seen at Out-Patients. Nothing is more valuable than seeing the new Out-Patients, writing up their history, examining them and making a diagnosis before they are seen by the Physician.

As regards reading, the best method is to study the text book account of each disease as one comes across it in the wards or in discussion, and afterwards to compare, if possible, the text book description with the symptoms and signs presented by the patients. At the same time the most important medical journals should be read regularly, for by this means only can the student keep himself in touch with modern work. The *B.M.J.* and the *Lancet*, the *Quarterly Journal of Medicine*, as well as the *Journal of the American Medical Association*, are especially recommended.

Books that may be recommended are the following: The well-known text book by Osler, Dr. Poulton's revised edition of Taylor, and *Physical Diagnosis* by Cabot. For second three months ward clerks, the most important monographs in Allbutt's or Osler's *System of Medicine* will prove valuable and interesting reading. For laboratory work Hutchinson and Rainey's *Clinical Methods*, or Dr. French's book will be useful.

OBSTETRIC & GYNÆCOLOGICAL WARDS.

After finishing appointments in the Medical and Surgical wards the student is posted to the Obstetric Department for six months. During the latter half of this time he is also attached to the Physician for the Diseases of Children. The Obstetric Dresser is responsible for case-taking in the wards and at Out-Patients, assists at operations, and during one month acts as Extern in the Maternity Charity. The Department has 26 beds reserved for gynæcological cases and 21 for the reception of cases presenting complications in pregnancy, labour and the puerperium and normal labours.

As an intervening link between the Obstetric and Children's Departments is the Salomons Centre, in which the health of mothers and infants is fostered by the practice of preventive medicine. The scope of the work done outside the wards is indicated by the fact that 2,163 attendances were recorded at Obstetric Out-Patients, while 2,025 women were attended in confinement in their own homes.

With this wealth of clinical material it should be possible for every student to obtain a sound knowledge of methods of diagnosis and treatment founded on no small experience. It is, however, recognised by teachers of Gynæcology and Obstetrics that this desideratum is not always attained. It is undoubtedly true that many a young practitioner has to admit a regrettable ignorance of the ailments which afflict his female patients and of the proper management of the pregnant, parturient and lactating woman. And these subjects form the foundation upon which a successful family practice is built. Responsibility for this sad state of affairs hardly rests with the student, but he will do well if he starts his clinical work with the firm determination to avoid the pitfalls that beset his feet. He must realise that practical experience in diseases peculiar to women cannot be acquired in the space of the three months which he will spend in Queen Ward. As he passes from one appointment to another he must resist the tendency to develop the compartmental mind and must endeavour to cultivate a wide outlook on medicine as a whole.

The study of the physiology and pathology of the functions of woman should be begun at the outset and continued throughout the period of clinical training. The man starting as Surgical Ward Clerk should include among his initial purchases a text book on Gynæcology, for purposes of reference, and should make a point of attending the lectures of the Obstetric Surgeons. He should also avoid no opportunity of acquiring the "tactus eruditus" so essential to the accurate diagnosis of pelvic disorders; the inherent impossibility of permitting a class of students to examine women patients one after the other renders it imperative that this experience be gained over a considerable period of time.

The study of midwifery he may well leave until he becomes an Obstetric Dresser; the art of the accoucheur cannot be learnt from books.

4. Pathology and Bacteriology.

PATHOLOGY

WHEN the student has passed the Second Conjoint or M.B. Examination, he is halfway through his medical curriculum, and he should have gained a working knowledge of the functions of the body in health. This knowledge is an essential preliminary to the study of the most important of the medical sciences, viz., Pathology, or the study of the functions of the body in disease. Throughout his life the student, if he continues to study and practise medicine, must ever keep pathology in the foreground. It is desirable, therefore, that the study of pathology be begun as soon as possible and continued throughout a medical career.

The subject is an exceedingly large one, and it is customary to divide it into several sections:—

1. General Pathology;
2. Morbid Anatomy;
3. Morbid Histology;
4. Bacteriology;
5. Chemical Pathology.

Due attention must be paid to each of these branches.

During the Autumn, Winter and Spring Terms systematic Lectures and Demonstrations in Pathology and Bacteriology are held. Three Lectures and three practical Demonstrations are given weekly. The practical Demonstrations take place at 9 a.m. and the Lectures at 12 noon. Regular attendance at these classes is most desirable, and the attractions of the wards and clinical work should not be allowed to interfere with laboratory studies.

Classes and Demonstrations in Chemical Pathology should be attended during the tenure of the post of Medical Ward Clerk, and the Pre-Clinical Period.

It is essential that throughout all ward appointments no opportunity should be missed of continuing the study of pathology. Every man should as far as is practicable follow out the pathology of each and every one of his cases. Is a bacteriological investigation made? He should follow it as far as possible. Is a portion of tissue removed for miscroscopical examination? He should see the section. Is a chemical examination demanded? He should try and see the analysis carried out. He should never miss an autopsy on any one of his cases. He should read up each case as he meets it. Set hours cannot be given for these lines of study; they must be fitted in as time and opportunity permit.

Efforts should be made to see as much practical work and as many demonstrations in pathology as can be arranged. There are very few days when no pathology can be learnt. Post-mortems are held nearly every day—Monday, Tuesday, Wednesday, Thursday and Friday at 1.30 p.m., and Saturday at 11.30 a.m. Attendance at these will amply repay the time expended.

Informal classes in Pathology are held three times weekly during the October and May terms. These, though primarily intended for M.B. students, are suitable for, and should be attended by, those sitting for Part I of the M.B.Cantab. and the Final M.B. of Oxford or London University.

During the later clinical appointments certain students may hold a few pathological posts, such as Student Demonstrator, Assistant to the Demonstrators of Morbid Anatomy, Student Assistant in the Bacteriological Department. One or more of these may be held in turn, and they prove exceedingly valuable from the learners' point of view.

There are many books which might be recommended, and what suits one may not prove attractive to another. MacCallum, *Text Book of Pathology*; Beattie and Dickson, *Pathology, Special and General*; with Muir and Ritchie, *Manual of Bacteriology*, should prove an adequate combination for most purposes. Other books which may suit other tastes and those which are good are: Adami, *Principles of Pathology*; Green, *Pathology*. For morbid histology, Grunbaum's *Essentials of Morbid Histology* may be recommended.

When the information in these books proves inadequate, as it is sure to do occasionally, some of the articles in Allbutt and Rolleston *System of Medicine* may be consulted or references to original papers may be obtained from the work and from the bibliography in MacCallum's *Text Book of Pathology*.

BACTERIOLOGY

Bacteriology, although for a time regarded by the clinician as affording information of merely academic interest, has now made a most profound impression upon the theory and practice of both medicine and surgery, and by providing specific treatment for many microbial infections has emphasised the necessity and stimulated the demand for exact diagnosis, and it is towards this direction that the student's interest is guided by the class in Practical Bacteriology.

Particular attention is devoted from the first instance to the technique of various investigations undertaken in connection with ward work. Thus the student himself examines sputum, pus and morbid exudates by various methods to demonstrate the associated bacteria. He is instructed in staining methods and the practical work of culture making, and is, moreover, encouraged to repeat for himself during the intervals between successive classes any observations and experiments previously carried out, in order to equip him for the performance in general practice of those more obvious methods of bacteriological diagnosis which experience has shown are both reliable and valuable. Demonstrations are also given upon the life history of the most important of the organisms which are pathogenic to the human race, and by the study of "pure cultures" an attempt is made to impress the chief characteristics of each upon the mind of the student, whilst the changes such organisms undergo or produce when they gain entrance to the human tissues are carefully emphasised.

Throughout the course considerable stress is laid on the further applications of bacteriology to treatment, including the use of various remedial agents such as sera and vaccines, which have been elaborated in the bacteriological laboratory for the treatment of disease, together with those facts and theories relating to natural and acquired immunity upon which bacteriological therapy is based.

5. The Special Departments.

THE CHILDREN'S DEPARTMENT

In-Patient Accommodation—Dr. Cameron has under his care 14 cots in the Children's Ward. On two days in the week, at present on Tuesdays and Thursdays at 2 p.m., Dr. Cameron goes round the ward and gives clinical instruction.

Out-Patient Department—Children under 10 years of age are seen in the Children's Department at Out-Patients on Mondays, Wednesdays and Fridays from 9.30 until 1 o'clock. Dr. Cameron attends on Mondays and Fridays at 10 a.m., when clinical instruction is given.

The Salomons Centre for the care of the mothers and children of the Midwifery Charity is now completed.

OTO-RHINO-LARYNGOLOGICAL DEPARTMENT

This Department is organised on the unit system. There are two units, one under the care of Mr. Mollison, the other of Mr. Layton. Patients are seen in the Out-Patient Department, admitted when necessary to the special wards, Dorcas and Christopher, and returned to the Out-Patient Department. This arrangement allows members of each unit to follow up the cases. Mr. Mollison's firm sees out-patients on Tuesdays and Fridays at 11.30 a.m., Mr. Layton's on Mondays and Thursdays at 9 a.m.

Dressers are appointed to the respective firms, and have every opportunity of becoming expert in the technique of examination of the ear, nose and throat, and of gaining experience in diagnosis and treatment. Large numbers of school children are seen. Minor operations are performed in the Out-Patient Department; these include, amongst others, operation for the removal of nasal and aural polypi, and of tonsils and adenoids, and for the lavage of the maxillary antrum; these operations are performed under the supervision of the Surgeon or the Clinical Assistant.

Twenty-seven beds and six cots are now allotted to the Department, and each firm operates twice a week. Mr. Mollison and Mr. Layton "take-in" during alternate weeks, and emergencies are admitted under the care of the firm on duty.

THE OPHTHALMIC DEPARTMENT

The Ophthalmic Department of the Hospital is in charge of the three Ophthalmic Surgeons. They are helped by three Assistants, one House Surgeon and Dressers. The Dressers are appointed four times a year for a period of three months, and assist the Surgeons at Out-Patients and at operations, and are responsible for the recording of the cases both in the wards and at Out-Patients. The Ophthalmic Department is an open field for any student to explore as far as he is willing and able, the amount of clinical work being sufficiently great for him to see all the more ordinary and common diseases of the eye in the space of three months.

The student will soon find that he is quite unable to form any opinion of his own on an ophthalmic case until he has mastered the use of the ophthalmoscope and can readily and accurately decide what is the refraction of the eye, and if the "fundus oculi" is healthy and normal. The theory of retinoscopy can be taught and is simple; the practice, however, requires constant application by the student before he can hope to obtain any sort of facility in it. The difficulties are mainly initial ones, and any time and trouble expended in mastering them will well repay any man in after life when he has qualified and is in practice.

MEDICO-NEUROLOGICAL CLINIC

The following arrangements have been made:—

(1) *Advanced Ward Teaching for Post-Graduates and Students at* 2.15 *p.m.*—Tuesday, Dr. Hurst, Dr. Ryle and Dr. Symonds, combined (Medico-Neurological) round in Mary Ward.

(2) *Out-Patients*—Medical, Thursday, Dr. Ryle; on Wednesdays and Saturdays, Dr. Symonds and Dr. Gillespie deal with Neurological and Psychological cases respectively.

(3) *Elementary Teaching*—Tuesdays at 10.30 and Fridays at 2, Dr. Hurst; Mondays and Saturdays at 10.15, Dr. Ryle; Thursdays at 10.30 (in Eye Ward), Dr. Symonds.

NEUROLOGICAL DEPARTMENT

This Department is under the direction of Dr. C. P. Symonds and now provides facilities for a full three months clerkship, which offers excellent opportunities to those who desire practical experience in one of the most difficult branches of medicine. Wednesday and Saturday mornings are devoted to Out-Patient work; Dr. Symonds holds a teaching round on Thursday mornings in the Eye Ward, while the Registrar usually goes round on Tuesdays and also supervises the operation of lumbar puncture on out-patients selected for that test.

DEPARTMENT OF PSYCHOLOGICAL MEDICINE

Now separated from the Neurological Department and providing a full three months course of Clinical tuition. In addition to Lectures and Clinical Demonstrations held at a mental hospital during the summer term, Dr. R. D. Gillespie is also responsible for a series of addresses on Normal

Psychology during the spring session. Out-patients are seen on Wednesday and Saturday mornings.

THE DERMATOLOGICAL DEPARTMENT

Out-Patient Days — Tuesdays, New Cases, 9.30 a.m. (children); 10 a.m. (adults). Old Cases, 1.30 p.m.

Thursdays, New Cases, 9 a.m.; Old Cases, 9.30 a.m.

Wards—There are three male and three female beds in the Eye Wards for Dermatological cases requiring careful supervision or treatment in bed.

Instruction in the diagnosis and treatment of diseases of the skin is given in the Out-Patient Department, and clinical demonstrations on selected cases are held from time to time.

THE GENITO-URINARY AND ORTHOPÆDIC DEPARTMENTS

These two appointments are now taken together, and have a common House Surgeon. Students acting as Dressers in the Genito-Urinary Department have excellent opportunities of acquiring knowledge which will be useful to them in actual practice and examinations. Out-Patients are seen on Tuesday and Friday afternoons.

The Department has 7 male in-patient beds in Christopher, 2 female beds in Queen, and 1 cot in Evelyn.

Students should realise that their attendance at this Out-Patient Department, though not compulsory, is very necessary, as is evidenced by the very advanced state of disease in which some patients arrive for examination.

The Orthopædic Department comprises a large out-patient clinic and a number of beds devoted to patients suffering from deformity. Out-patients are seen on Monday and Wednesday afternoons, and Minor Operations performed on Friday afternoon, and in the Out-Patient Department the student will meet with every variety of deformity, congenital and acquired. Considerable facilities are afforded for experience in the relief and cure of all chronic diseases of bones, joints, muscles, etc. Instruction in the principles and most modern practice in the use of appliances, plaster technique, and the more useful forms of Physio-Therapy is given by Mr. Trethowan, the Orthopædic Surgeon, and Mr. Lambrinudi, the Orthopædic Registrar. Numerous operations of a minor nature are done, such as manipulations for stiff and painful joints, correction of misshapen and ricketty limbs, correction of scoliosis and immobilisation of tuberculous joints.

The in-patient beds are devoted to the most serious operative cases, such as extensive tendon transplantations, correction of malunited fractures, bone-grafting, the making of new joints, etc. Guy's is a pioneer hospital in possessing an excellent workshop for the manufacture of every form of splint and appliance.

It is in the Orthopædic Department that the principles underlying the mechanical disabilities of the limbs and spine are emphasised and their explanation made clear, and the experience to be gained here is invaluable. The great utility of orthopædic surgery has become evident to very many during the war.

THE MASSAGE DEPARTMENT

The New Department is now in full working order, and patients are treated between the hours of 2.30 p.m. and 4.30 p.m. on Mondays, Tuesdays, Thursdays and Fridays, and between 9.30 a.m. and 12 noon on Wednesdays and Saturdays.

The point of interest to Medical Students is to see the work carried out on patients by Massage and Medical Gymnastics. A large variety of cases are being treated daily, which include fractures, stiff joints, dislocations, nerve injuries and disease, lung and heart disease, congenital conditions and poor development in children, etc.

THE TUBERCULOSIS DEPARTMENT

The Tuberculosis Department is a reference Department for out-patients suffering from diseases of the chest. Patients attend on two days a week, Thursday afternoons and Monday evenings. For suitable cases arrangements are made for admission to sanatoria. The patients return to the Out-Patient Department after leaving the sanatorium. The Department provides extensive opportunities for studying methods of investigating early and doubtful cases of pulmonary tuberculosis, also for observing special forms of treatment such as artificial pneumo-thorax. A special appointment is now connected with this Department.

THE DEPARTMENT FOR VENEREAL DISEASES

This Department, which was reorganised and greatly enlarged a year ago, is now open from 9 a.m. to 8 p.m. on all week days, and from 10 to 12 noon on Bank Holidays.

Treatment is carried out for all venereal diseases in women, men and children, and patients may be referred from other departments at any of these times.

The total number of attendances during the last twelve months was 35,000.

Students may attend the male section any evening from 5 p.m. to 7 p.m., and Dressers in the Gynæcological Department may attend the female section on Mondays from 5 p.m. to 7 p.m. or Wednesdays from 2 p.m. to 5 p.m.

Demonstrations are held on Thursdays at 5 p.m. in the Demonstration Theatre in this Department.

Five Dressers are appointed to the Department every three months.

PRACTICAL PHARMACY, MATERIA MEDICA, AND DISPENSING

One of the many important things all medical students must know is how to write a prescription. It may even be necessary for the majority, when qualified, to be able to dispense the same. All students, therefore, would be well advised to acquire as much knowledge of the subject as they can.

The student is taught, practically, how to dispense the different medicinal preparations; he learns to write prescriptions, due regard being paid to doses and incompatibilities.

The recognition of crude drugs, their active principles and preparations form part of the course, which is conducted by the Hospital Pharmacist and covers the syllabus of the Practical Pharmacy of the Conjoint, 2nd M.B. London, 2nd M.B. Camb. (Part III) and the 2nd B.M. Oxford.

ELECTRICAL AND ACTINOTHERAPEUTIC DEPARTMENT

The treatments carried out in this Department include the following: Diathermy, high frequency, the application of the constant, faradic and sinusoidal currents, radiant heat, and static electricity, treatment by the Finsen and mercury vapour lamps and radiotherapy.

A special Department has recently been opened for artificial sunlight treatment.

A large number of cases are treated in the Department: Chronic joint conditions, nerve injuries, wasted muscles, skin diseases such as ringworm, psoriasis, eczema and rodent ulcer. There are also a large number of cases of malignant disease undergoing treatment with X-rays and radium.

6. Books.

ADVICE on this matter is extremely difficult to give, for individual needs are almost as varied as the length of individual pockets, and the adornment of a virgin bookshelf is bound to depend on both these factors. Except in the case of certain essentials for routine work, such as the dissecting room manuals, it is perhaps better to postpone the inevitable visit to the bookseller and first to consult the various tutors and demonstrators in the subjects concerned. They will be more than willing to extend any suggestions made under various headings in this issue of the GAZETTE, and their experience will enable them to advise that blend of old and new best fitted to the individual case.

The rapid advance in medical knowledge unfortunately renders the second-hand book almost worthless except in the case of Anatomy, where the advances, though many and real, are not apt to be so revolutionary as in Physiology and Medicine itself. A Physiological text book probably becomes out of date in less than a year, a text book of Medicine in two or three years at least, so that in these subjects at any rate recent editions are essential.

All that is most distinctive in current Guy's teaching is to be found in the *Guy's Hospital Reports*, which contains articles written for the most part by members of the Hospital Staff. The unqualified man has the special privilege of purchase at a much reduced price, an advantage that he will be wise not to neglect.

A great number of publishers are responsible for medical books, and a just estimation of the rival claims for their various productions is quite beyond the scope of this article. Mr. Humphrey Milford at the Oxford University Press offers a wide range of medical works of uniform excellence in subject matter, binding and printing. Messrs. Churchill publish Taylor, Gask and Wilson, the new *Recent Advances Series*, and many other well known works. E. & S. Livingstone of Edinburgh present books containing the valuable teaching that emanates from both sides of the Tweed, and also cater for the hard-pressed student in an extensive *Catechism Series*, intended to aid his last minute revision. Baillière, Tindall & Cox are responsible for the large Rose and Carless and a small synopsis series in their well-known *Aids*. Many splendid books are published by John Murray, Faber & Gwyer, Ltd., Cassell & Co., Longmans, Green & Co., Macmillan & Co., John Bale, Sons & Danielsson, Edward Arnold, and Constable, while Lewis of Gower Street sponsors a number of books having a specialist flavour—such as Rawling's *Surface Markings* and Martindale's *Extra Pharmacopœia*, to select at random. Messrs Lewis also run an excellent medical circulating library, which should prove invaluable to the student who wishes to dip briefly into all the latest books. Messrs. Foyle, of Charing Cross Road, specialise in second-hand books and also in those on sporting, as distinct from scientific, subjects.

Mr. H. H. Grattan, in the Borough High Street, is the official bookseller to the Hospital, and is able to supply most of the books in common demand over the counter; any others he can be relied upon to obtain as quickly as possible.

To The Dental Student.

By J. Lewin Payne, Esq., O.B.E.

THIS brief article is written for the purpose of extending a welcome to all those men who now find themselves Dental Students of Guy's Hospital. To that welcome I would add the hearty congratulations of my colleagues and myself upon the choice that the new student has made in selecting his *alma mater*. For, in Guy's is to be found an institution which he will learn to love and revere if only he will enter into the spirit of its work.

Just 40 years ago a committee of the Medical Staff was considering a proposal to enlarge the existing Dental Department of the Hospital and to convert it into a Dental School. This committee was formed at the suggestion of Mr. F. Newland-Pedley, who, three years previously, had been appointed Assistant Dental Surgeon to the Hospital.

Prior to this date, practical work of the Hospital Dental Surgeon consisted almost entirely in the extraction of teeth; no attempt was made to carry out any systematic conservative treatment.

The original draft of the scheme to found a new Dental School was drawn up by Mr. Newland-Pedley whilst spending a holiday in Paris, and this was presented at a School meeting on May 4th, 1888.

The report of the committee was not accepted in its original form. But, on October 12th, 1888, with the invaluable support and advice of Dr. Perry—now Sir Cooper Perry—who was then Dean of the Medical School, an amended report was adopted by the School Meeting, and, on December 9th, 1888, the scheme for the establishment of a Dental School was finally approved by the Governors of the Hospital.

It was the first Dental School in the Metropolis to be established within the precincts of a large general hospital, and in connection with a well-known School of Medicine and Surgery. The first Dental Student was our greatly esteemed Consulting Dental Surgeon, Mr. Montagu Hopson, who was enrolled on February 7th, 1889. A second student entered in May, 1889, and four others, making six in all, became students at the formal opening of the School in October, 1889. Thus, the Dental School of Guy's had a very modest beginning.

At the outset, a room was built just behind Petersham House in the Hospital grounds, where accommodation was afforded for 18 chairs, and in this room all dental operations were performed, except the extraction of teeth.

Ever since those early days the Guy's Dental School has prospered. The scheme of 40 years ago has succeeded beyond the most sanguine expectations of its promoters.

On no less than four occasions the sanction of the Governors has been sought, and granted, for extensive enlargement of the School premises, until to-day it has become the largest Dental School in the British Isles.

Why has the School prospered in this fashion?

Several factors have promoted its success, but one important reason is that, for the most part, the students who have been trained here have entered into the spirit of the work and the great traditions of the Hospital, and they have been influenced by that *esprit de corps* which is one of the chief characteristics of all true Guy's men.

Those of you who come now are entering upon a great heritage. See to it that you are worthy of the School and Hospital of which you now form a part. Here you will find the opportunity of doing the best work for which a man can wish. But opportunity is not everything. Success in life is mainly due to industry and perseverance.

Lord Eldon, a former Lord Chancellor of England, was asked on one occasion by a friend, "What is the best way to ensure for young men success at the Bar?"

He replied: "I know no rule to give them, but they must make up their minds to live like a hermit and work like a horse."

This rule of practice, I believe, to be indispensable, whatever career you choose. There is no royal road to success in life that I know of except through the gates of hard, persistent work and constant attention to details. The habits we form during the early years of hospital life largely determine our future career.

The Dental Student at Guy's has the privilege of studying side by side with his Medical confrère and of joining him in fields of sport and recreations outside.

The newcomer may be somewhat overwhelmed by the number of subjects he is expected to cover during the four years' Hospital curriculum, but all can be accomplished if the work is undertaken with patience, regularity and perseverance.

He should make himself acquainted with the various pamphlets issued by the Medical School Office, which will guide him in the scope of his studies.

If, after reading these, the student finds himself still in difficulty let him appeal to one of the

members of the Staff, who will always be glad to help with practical advice.

When, later on, he comes into actual contact with the Hospital patient, he must be punctual in his attendance, thorough in his work, courteous in his manner and gentle in his treatment. He will find all these qualities of great value to him in private practice in the future.

So, to the new student who enters Guy's this month, I would say—you have involved yourself in the responsibility of carrying on the great work of this Hospital. The reputation of Guy's depends upon your keenness and your conduct in life, both as students here and as practitioners hereafter. Make it your chief endeavour to maintain, and, if possible to enhance, the traditions of the old School.

Remember the motto beneath our coat of arms :

Dare Quam Accipere.

The Dental Curriculum.

THE Dental Student is supplied at the Medical School Office with the Prospectus, Standing Orders, List of Instruments, Calendar and Clubs' Union Book.

These pamphlets should be carefully read in order that acquaintance may be made with the general arrangements of the School and the scope of the work upon which the student will become engaged.

Notices regarding the time and place of Lectures are to be found posted up by the main entrance of the Dental Department.

Instruments having been purchased at a dental depot, the student should satisfy himself that he has been supplied with all of those described in the Hospital list, and have them inspected by his demonstrator.

It is inadvisable to purchase instruments before they are required. Instruments for prosthetic work are required for the B.D.S. course at the commencement of the second year, and for the L.D.S. course at the commencement of the first year. Clinical instruments are required for the B.D.S. course at the commencement of the fifth year, and for the L.D.S. course at the commencement of the third year.

Among the various depots at which instruments may be purchased are the following : The Amalgamated Dental Co., Broad Street, Golden Square, W.C., and 16, St. Thomas's Street, S.E.1 ; The Dental Manufacturing Co., Alston House, Newman Street, W. ; Cottrell & Co., 15–17, Charlotte Street, W.1, and L. Porro, Ltd., 33, New Cavendish Street, W.1.

The course of study for the B.D.S. London covers a period of five years, of which the first year consists of Physics, Inorganic Chemistry and Biology. The second year is occupied with the study of General and Dental Anatomy, Physiology, Pharmacology and Dental Prosthetics. The study of these subjects is also continued in the third year, together with Pathology, Bacteriology and Surgery. Clinical work in the wards, Surgery, Medicine, Anæsthetics, Pathology and Bacteriology, together with Dressership in the Extraction Rooms, Dental Metallurgy and Dental Prosthetics constitute the fourth year's work, and the fifth year is occupied by purely Dental subjects, these being Clinical work in the Conservation Room, Orthodontics, Operative Dental Surgery and Dental Surgery and Pathology.

L.D.S. students who come under the New Regulations must pass the Pre-Medical Examination in Chemistry and Physics before they can commence their four years' course. Subsequently, their first term is devoted to Dental Mechanics and Elementary Anatomy and Physiology, and it is important that the student gets a good grounding in the former at this early stage. During the remainder of the first year the student continues his work in these subjects and takes part III(*a*) of the First Professional Examination at the end of the period. In his second year he studies Dental Metallurgy and completes his training in Dental Mechanics. In his third term of this year he attends Lectures on Dental Anatomy.

Third year students for the L.D.S. commence the Clinical courses with a period of probationary work upon the phantom head. The operative course, conducted by a Staff demonstrator, is very comprehensive. It includes most of the operations that the student will subsequently be called upon to perform upon patients, namely, gold and other fillings, crowns, inlays and the treatment of devitalised and septic teeth. These operations upon the dummy form an excellent ground work in operative dentistry.

Thereafter the course of work consists in holding and diligently carrying out the work of the following appointments : *Probationer Dressership in the Conservation Room ; *Dressership in the Conservation Room ; *Dressership in the Children's Department ; Dressership in the Ordinary Extraction Room ; Dressership in the Gas Extraction Room ; Casualty Dressership ; Clerk to Anæsthetist.

*Courses on Gingival Hygiene, local anæsthesia, and fourth year demonstration in operative dental surgery will also be attended.

A student, apart from those holding the post of Assistant Dental House Surgeon, is not allowed to work in the Conservation Room unless he holds one of the appointments marked *.

The Dental Anatomy and Physiology examination is taken in the second term of his third year.

An optional X-ray course may be taken by the student in his final year.

The time varies, according to whether the course for the B.D.S. or L.D.S. is being taken, at which a student will come into actual contact with Hospital patients, but he should always endeavour to be punctual in his appointments with them. There is nothing more irritating and annoying to a patient than to be kept waiting unnecessarily; it also delays to a very great extent the easy working of the Department.

Further, the student should remember that the cultivation of a courteous and gentle manner towards all patients will become in the future probably the greatest asset in his private practice.

Dental students will profit by following the practice of the Special Departments of the Hospital, *e.g.*, Eye, Throat, Ear. They will also have numerous opportunities of observing the more remote effects of dental disorders in the General Wards and Out-Patient Department.

Students in difficulties about their work and needing advice are invited to consult the Dean, Sub-Dean, Senior Dental Officer or any other member of the Staff, who will be pleased to do what they can to promote their interests.

The Pupils' Physical Society.

Hon. President—Sir Charters Symonds, K.B.E., C.B., C.B.E., M.S.

Hon. Vice-Presidents—Sir William Hale-White, K.B.E., M.D.; Sir W. Arbuthnot Lane, Bart., C.B., M.S.; John Fawcett, M.D.; G. Newton Pitt, O.B.E., M.D.

Presidents—W. L. Bigby, J. B. Blaikley, F. G. Booker, E. T. Conybeare, C. R. Freezer, H. N. W. Harley, W. F. Hudson, W. D. G. Jones, W. H. Miller, O. Plowright, J. R. Rickett, T. G. Scott, S. Shone, E. M. B. West, G. N. Wood.

Hon. Secretaries—N. L. Eckhoff, F.R.C.S., A. C. Hampson, M.D.

THE Pupils' Physical Society is a direct descendant of the older Physical Society, which was founded in 1771, and which was London's oldest medical society. The older organisation ceased to exist in 1852, partly owing to the competition of the Medical and Chirurgical Society, now the Royal Society of Medicine, which was founded in 1805. The Pupils' Physical Society was originally started in 1830 as a purely students' society for the discussion of subjects of medical and surgical importance, for the showing of interesting cases, and for the reading of papers. The functions of the Society are the same to-day as they were close on a century ago, and it cannot be too strongly emphasised that it is and always has been essentially a students' organisation. Its members are the members of the Clubs' Union. It is managed by a Committee consisting of not more than 16 Presidents, elected by the Society from the senior students and House Officers. The meetings, which in the coming session will be held on alternate Thursdays, are presided over by one of these Presidents, who, apart from one of the Honorary Secretaries, is frequently the only qualified man present. This point is stressed, because students are apt to think that the Society is designed for the benefit of qualified men and members of the Staff. Few of the former and none of the latter attend the ordinary meetings, which are particularly intended to give students an opportunity of discussing medical problems amongst themselves. The attendances have been rather disappointing of recent years, and it is hoped that the present session, the opening meeting of which will be held on Thursday, October 4th, will show a distinct improvement.

Medical men are particularly liable to be called upon to speak in public during their professional careers. Attendance at the Physical Society's meetings lays the foundations of a capacity to carry off what is to most people, especially the unpractised, a difficult and delicate task with some degree of distinction. Medical Societies, too, exist in all the larger towns and in many country districts. The experience afforded by the Physical Society enables a practitioner who has been assiduous in his attendances in his student days to take an active part in the work of such societies without developing an "inferiority complex."

Apart altogether from its uses as a training ground for public activities in later life, the Physical Society presents opportunities to students for acquiring a knowledge of medicine in a more congenial—and certainly equally valuable—manner than is provided by routine teaching and book work.

It is no exaggeration to say that the education of a Guy's man is incomplete unless he has regularly attended the clinical and pathological evenings of the Physical Society. There is no obligation to members to take part in the discussions, but those who do so derive greater benefit from the meetings than those who do not. In any case, those who come to the meetings have a chance of seeing a mass of clinical and pathological material which they would probably not see otherwise. "Experientia docet."

The Physiological Society.

By R. A. Q. Lay.

THE Society was founded 28 years ago by Professor Pembrey, who still plays a large part in making it flourish. Meetings are held about once a fortnight during the winter session. Usually a paper is read by a member on some subject of physiological or general interest, and is followed by a discussion in which the reader has to defend the contents of his paper from the scathing criticisms of his audience.

Many are the topics which come under the heading of Physiology; sometimes Sociology and Ethics are touched upon, and often the only barred subject—Theology.

The papers read last session included:—

"The Physiology and Pathology of the Lymphatic System," by C. K. Simpson and S. Shone. (Joint Meeting with the Physical Society.)
"The Cerebellum," by T. F. Todd.
"Contractile Tissues," by P. A. Gorer.
"Vitamins," by A. R. Clarke.
"Decerebrate Rigidity," by P. V. Reading.
"Rejuvenation," by H. A. Constable and E. T. Blacklee.
"Sleep," by R. N. C. Smith.
"Insulin," by D. W. James.
Also a discussion on "Ovarian Secretions," opened by Professor W. E. Dixon of Cambridge and Dr. Parkes.

Membership entitles one to enjoy tea in the experimental Physiological Laboratory and also the cigarettes and tobacco provided during the meetings.

All those studying Physiology should become members, since, as well as learning this subject in an easily assimilable form, they can acquire ability to take part in discussion—an obvious asset to any member of the medical profession.

All these benefits can be partaken of by anyone who can afford the modest sum of 3*s.* 6*d.*, which is the annual subscription. (The Society does not form part of the Clubs' Union.)

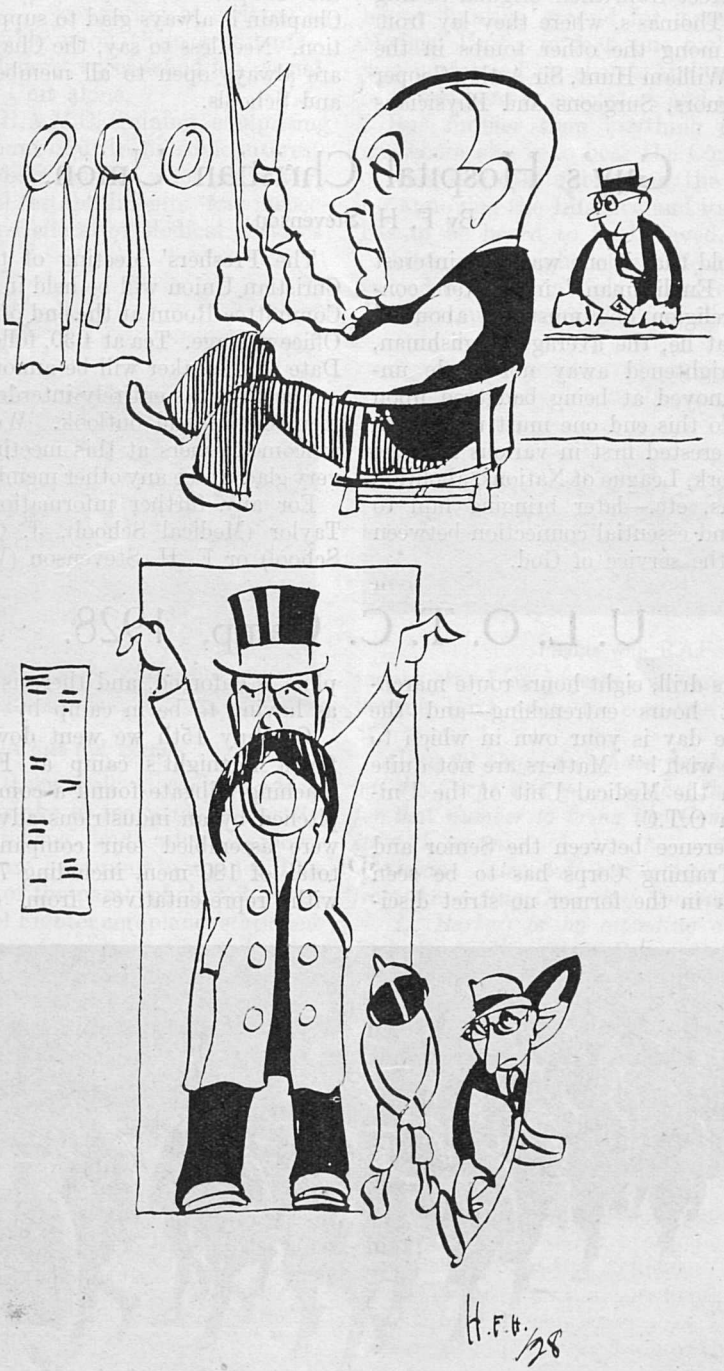
Prospective members should come to the Annual General Meeting, to be held in the Physiological Theatre at a time to be announced later.

Guy's Hospital Chapel.

THE Chapel at Guy's certainly does not thrust itself ostentatiously upon the notice of the newcomer, but it exists nevertheless. Those who boldly open the door under the clock in the front square will find it. It is embedded in Matron's House, which flanks it on either side and covers the roof as well. It is square, without an apse, and with galleries round three sides, being technically described, we believe, as a "drawing-room Chapel of the Georgian Period." An impression of a sort of apse, indeed, has been artificially and undesignedly created by the erection of an organ in one corner and a vestry in the other. This has the disadvantage of partially obscuring the design of the Colonnade, which was clearly intended to be a feature of the building. It is possible that these encroachments will be removed in the execution of a scheme of redecoration and improvement which is afoot. The stained glass windows commemorate William Hunt, the founder of the Medical Wards. The mosaics and panels are a memorial to all those who have died in the Medical Service of the Hospital since 1867.

Various others are recalled by brasses in various parts of the Chapel and in the Lobby. The most interesting of these are those of W. E. Gladstone, a Governor for 63 years, Sir Astley Cooper and Sir William Gull. But the best known feature of our little Chapel is the really noteworthy monument to our Founder, Thomas Guy, which faces the altar. Here is Guy in Court dress of the period relieving a suffering man, while in the background is to be seen an actual model of the Quadrangle and Colonnade Steps outside, with porters engaged in stretcher bearing. The inscription on the monument is well worth studying as a good example of the somewhat florid testimonials which characterised such literature in the Eighteenth

Two Great Men.



"Cats may look at Kings, but—"

century, and as a record of certain facts apt to be forgotten.

An extensive crypt contains the Founder's tomb, for the remains of Thomas Guy were translated across the street from their original resting place beneath St. Thomas's, where they lay from 1725 to 1780. Among the other tombs in the crypt are those of William Hunt, Sir Astley Cooper and certain Governors, Surgeons and Physicians of bygone days. Of those who served the Chapel the greatest name is that of Frederick Denison Maurice, Chaplain 1836–46, portraits of whom will be found in the Lobby. A list of the services in the Chapel will also be found there, and the Chaplain is always glad to supply further information. Needless to say, the Chapel and its Services are always open to all members of the Hospital and Schools.

Guy's Hospital Christian Union.

By F. H. Stevenson.

I HAVE been told that if one wants to interest the "average Englishman" in matters connected with religion one must set about it in such a way that he, the average Englishman, will neither be frightened away nor made uncomfortable or annoyed at being badgered upon such a subject. To this end one must use means of getting him interested first in various humane projects—social work, League of Nations, abolition of slum conditions, etc.—later bringing him to see the intimate and essential connection between these things and the service of God.

The Freshers' Meeting of the Guy's Hospital Christian Union will be held in the Medical School Committee Room at the end of the Medical School Office passage. Tea at 4.30, followed by an address. Date and speaker will be announced shortly.

The Union is entirely interdenominational in its membership and outlook. We shall particularly welcome freshers at this meeting, but will also be very glad to see any other members of the Hospital.

For any further information apply to G. H. Taylor (Medical School), J. C. McNeill (Dental School) or F. H. Stevenson (Wards).

U. L. O. T. C. Camp, 1928.

"EIGHT hours drill, eight hours route marching, eight hours entrenching—and the rest of the day is your own in which to do exactly as you wish!" Matters are not quite as bad as that in the Medical Unit of the University of London O.T.C.

Really, the difference between the Senior and Junior Officers' Training Corps has to be seen to be believed, for in the former no strict discipline is enforced, and there is no such regulation as having to be in camp by "Lights Out," etc.

On July 15th we went down by special train for a fortnight's camp at Folkestone, and on reaching Dibgate found a complete camp already pitched by an industrious advance party. There were assembled four companies of Medicals, a total of 180 men, including 74 from Guy's, and with representatives from every hospital in

Arrival in Camp.

London, and six companies of Infantry and a battery of Artillery from the various Training Colleges, making a total of approximately 600 Cadets. Unfortunately, the Engineers were not in camp with us this year, so "night operations in the Infantry lines"—consisting of striking as many tents as possible upon their occupants—were carried out with great success and few casualties by the Medical Unit alone.

We did the usual R.A.M.C. training, comprising lectures, a small amount of drill and some interesting field work, including the day when we put up seven Field Medical establishments for inspection by the Director-General of Medical Services,

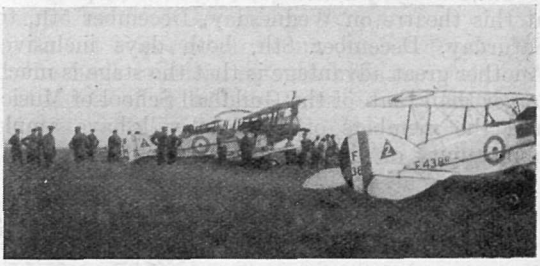
On Parade—A first Aid Lecture.

Gen. Sir William Matthew Fell, at each of which he was invited to partake of tea made in hastily improvised camp kitchens, and, what is more, actually did so. We are beginning to wonder if he is the original carrier of the paratyphoid epidemic. We also had six Bristol Fighter aeroplanes stationed at Hawkinge Aerodrome for co-operation and training, and all Cadets who so wished were taken up.

Of course Folkestone, which could be reached by bus in five minutes, is an ideal place for a camp, and the attractions—both inanimate and otherwise—are many and too numerous to mention, but the skating rink on the pier seemed to be a happy hunting ground for large numbers of the Medical Unit; in fact, one night Stretcher Drill was performed on skates, and caused a good deal of amusement to spectators and participants alike.

But funnier than anything in Folkestone or anywhere else is to hear the Commanding Officer of the Medicals upbraiding the Unit on parade for annoying the Infantry and its Chief—that also has to be heard to be believed.

After a fortnight of excellent weather we returned to town on July 29th, feeling thoroughly fit after our wonderful "rest cure." As arrange-



Flights with R.A.F.

ments stand at present, we are going to Eastbourne next year to continue further "night operations."

About 20 *Guy's men have finished their time and left the Corps this year, so that there are vacancies for that number to bring the Company up to full strength again.*

Anyone interested can obtain full particulars from the Acting Company Commander (2*nd Lieut. N. L. Barber*) *or by attending any of the Corps Lectures, held in Class Room I at the times stated on the O.T.C. Notice Board in the Colonnade.*

Guy's Hospital Musical Society.

THE Musical Society, with which is incorporated the Nurses' Choral Society, was first founded in 1903, but it was not until the autumn of 1919 that the Society boldly ventured to stage an annual performance of Gilbert and Sullivan's comic operas, and each year the Society has gone from success to success. That the efforts of its members are thoroughly appreciated has been proved by the enthusiastic audiences attending the Society's functions.

The Society has presented the following operas: 1924, *Trial by Jury*; 1925, *Iolanthe*; 1926, *The Gondoliers*; 1927, *The Mikado*, which, from the financial point of view, have all been highly successful. *The Mikado* was the most successful, and the Society finished the season with a good profit.

As the Society is not affiliated to the Clubs' Union an annual subscription of 2*s.* 6*d.* is made to male members and 1*s.* to female members.

All members of the Medical, Nursing, Massage, Administrative Staff and students of the Hospital are eligible for membership.

During the past year we have been unfortunate in losing the services of Mr. L. Ride and Mr. S. L. A. Clarke, both of whom have left the Hospital. They took the leading parts in *The Mikado*, and their shoes will be extremely difficult

to fill, but it is hoped that with the influx of new members the Society will have no difficulty in finding competent artists.

All previous performances have been given at the Guildhall School of Music, but owing to the dates at this theatre being booked we regret it will be unavailable for the next opera.

The Society has, however, been most fortunate in securing the Rudolf Steiner Hall, 33, Park Road, Clarence Gate, N.W. This theatre is really more easily accessible to residents in all parts of London than the Guildhall School of Music. It is very close to Baker Street Station, which is served by the Bakerloo and Metropolitan Railways, while there is an excellent bus service passing the door of the theatre. It is no wonder therefore that the Society is optimistically looking forward to *The Pirates of Penzance*, which will be produced at this theatre on Wednesday, December 5th, to Saturday, December 8th, both days inclusive. Another great advantage is that the stage is much larger than that of the Guildhall School of Music, and the members of the cast will have ample opportunity of displaying their talents.

Rehearsals for the "Pirates" will commence shortly, and members, old and new, will be well advised to keep their eyes on the Musical Society's Notice Board in the Colonnade, where all announcements are made.

The conductor once again will be Mr. H. Y. Templeman, and the producer Mr. H. Leffler, and let it be said that we are extremely fortunate in having the advantage of their wide experience.

Owing to the departure of Mr. L. Ride we have been compelled to re-arrange the duties of the Hon. Secretaries. Mr. G. G. Ellis will continue as Joint Hon. Secretary, while the business management will be in the hands of Mr. Geo. A. Winston, the Wills Librarian, who will control the arrangements for the sale of tickets in connection with the next production.

We extend a hearty welcome to instrumentalists and vocalists, and especially to "freshers." That they will enjoy themselves we have no doubts, and whether they have voices for the principal parts or content to be with the chorus, they will be welcomed in our ranks.

Guy's Hospital Clubs' Union.

THE formation of the Clubs' Union, by the amalgamation of the various Constituent Institutions, took place in the summer of 1891. The objects of the amalgamation were to further the interests of the clubs and societies existing at the Hospital by their mutual support, and to simplify the collection of subscriptions. By the payment of an annual subscription—see *Clubs' Union Year Book*—to the Clubs' Union, any student of the Hospital can obtain the privilege of membership of the Constituent Institutions.

The Union comprises the following Constituent Institutions: Association Football Club, Athletic Club, Cricket Club, Dental Society, Gazette, Golf Society, Hockey Club, Lawn Tennis Club, Gymnasium, Physical Society, Rifle Association, Rowing Club, Rugby Football Club, Sailing Club, Students' Club and Swimming Club.

On joining the Union a student is entitled to take part in the activities of any of the above Constituent Institutions. The ground of the Clubs' Union is under the control of the Council, is situated close to Honor Oak Park Station on the Southern Railway, Brighton Section, and to Crofton Park Station, on the Southern Railway, South-Eastern Section. It is 9 acres in extent and is the headquarters of the Guy's Football, Cricket, Athletic and Lawn Tennis Clubs. A Fives Court, under the management of the Students' Club, is situated behind the Nurses' Home near the Swimming Bath, and arrangements are made for classes in Boxing, Fencing and Gymnastics in the Pavy Gymnasium. The Rowing Club is affiliated to the London Rowing Club at Putney, and members are entitled to all the advantages of that Club. Meetings of the Debating, Dental and Physical Societies are held from time to time in the College.

The membership subscription of the Union is 5 guineas per annum.

Extensive alterations have been carried out in the Students' Club to provide greater accommodation and comfort for the members, and are dealt with in the next paragraph on the Students' Club.

At Honor Oak Park a new stand has been erected to seat 800 people, so that now with the two existing small stands there is seating accommodation for 1,000 people. It is hoped that improvements to the Pavilion will be commenced shortly.

As any student can see, these alterations in themselves necessitate an increase in the membership subscription. The Utopian ideal of a new Students' Club may even be yet realised in the future, thus adding another burden to the finances of the Union.

Membership cards are issued entitling the holders to the privileges of membership of each of the Constituent Institutions.

New members should consult the Notice Boards in the Colonnade for information as to the activities of the various clubs.

An excellent programme of home matches has been arranged by the Rugby Football Club—*vide* Fixture Cards—and it should be noted that free admission to the ground during matches at Honor Oak Park is granted only to members of the Union on production of their membership cards.

STUDENTS' CLUB

The premises of the Club include the Smoking and Reading Rooms and the Dining Hall in the College.

A good supply of papers and periodicals is now maintained, and it is hoped that all members of the Club will assist the Committee by themselves seeing that the periodicals, etc., are kept in good order. The taking of periodicals out of these cases or the removal of papers from the Reading Room throws a lot of extra work on to the Librarian, and members ought not to expect the Committee to keep up a constant supply of papers if these are continually removed as soon as they are placed in the Reading Room.

The Library in the Reading Room has also been thoroughly rearranged. A new catalogue has been made, and can be inspected at any time.

Notices are posted in the Reading Room stating the regulations of the Library, and students should avail themselves of this opportunity of a good supply of general literature, which for once has no connection whatever with medicine.

Through the Library books may also be obtained from Mudie's Library.

The attention of all members is drawn to Rule 20 of the Clubs' Union :—

"Every member whose subscription is more than one month in arrear shall be suspended from the privileges of membership, and his name shall be posted in the Students' Club. After two months' default, if desirous of resigning his membership, he shall be required to submit his resignation in writing to the Secretary, and shall not be readmitted without the consent of the Council, who shall, if they think fit, impose a fine of 5*s*. upon his readmission."

A list is posted from time to time of members who have failed to comply with the rules in the Students' Club, and the Secretaries of Constituent Institutions are notified that the members named are not entitled to the privileges of the Union until their subscriptions have been paid.

Rugby Football Club.

By E. A. R. Berkley.

WE are on the threshold of another Rugby season—our 85th—and we find ourselves deprived of the valuable services of several old players. Another loss that the Club has sustained is the retirement of W. D. G. Jones from the post of Hon. Secretary. He has served for two consecutive seasons with untiring energy and to very good purpose. Alarming as these losses may appear, the Club is fortunate in retaining a powerful nucleus around which a 1st XV, well up to our high standard, might be formed, especially with the aid of members of last year's exceptionally strong "A" XV and promising new Cambridge men who are coming up for the Winter Session. In T. O. Garland (capt.) and J. R. F. Popplewell (vice-capt.) the 1st XV are lucky in having two excellent leaders, whose example can well be followed, not only in the field but also in the matter of getting fit and maintaining that condition.

The Club suffered eclipse in the Hospitals' Cup last season, but, apart from this, were very successful, being unbeaten by any London side. In the coming year we have every reason to anticipate an equally, if not more successful season and the reurn of the Hospitals' Cup.

The well earned success of the "A" XV was undoubtedly due to the energy and example of its captain, J. C. T. Tregarthen, and we hope that the Club will not be deprived of his services in 1928–29. In spite of the losses that the team will certainly sustain, there is no reason why an equally strong side should not be forthcoming with the ample material which will be available. The "A" XV won both the Junior Hospitals' Cup and the Senior Kent Cup last year, and it is to be hoped that this record of winning both trophies in the same season will be maintained.

The Extra "A" and the "B" XV's were equally enthusiastic and would have been more successful had they not been unfortunate in having their ranks depleted on many occasions to fill last minute "scratchings" in the teams above them.

The Nomads had their usual successful season, playing with that enthusiasm and spirit characteristic of this famous side.

For the benefit of new members there follows a list of team secretaries; "A," D. J. O'Shea; Extra "A," M. A. Freeman; "B," H. A. Cochran; Nomads, R. A. Lomax, and application to one or other of them should secure a game to men of all standards. In addition there is a notice on the R.F.C. Notice Board in the Colonnade which new members should sign with a view to

playing in the trial games. These games are invaluable in the selection of the various teams, and it is only fair to the teams and the individual members of the Club that the latter should have a fair trial. The trial games will have commenced by the latter part of September, and definite dates and arrangements will be posted on the Notice Board.

Fixture Cards are available from hon. secretaries and College Lodge, 9*d.* each.

Association Football Club.

By J. B. Small.

THE prospects of the "Soccer" Club for the season 1928–29 are bright; there are eight of the XI who played in the University Cup Final last year remaining, and, together with some new "strength and talent," we hope to build up a strong team.

A. M. Cantor has been elected captain of the club, and under his leadership we anticipate a very successful season.

The past season is one which the Soccer Club can look back upon with mixed feelings; there was the nucleus of a good side, but the results were rather disappointing. Twenty-three games were played, 11 of which were won, while the remaining 12 resulted in defeat. Unfortunately, our hopes of retaining the Hospital Cup for another year were not realised, for in the first round we were beaten by the ultimate winners.

The Junior Hospital Cup was won by the 2nd XI, and it is hoped that the higher standard reached by them last year will be maintained.

Will all those wishing to play "Soccer" this year, who have not already done so, please write their names down on the list in the Colonnade. Backs especially are needed this year.

The following fixtures have been arranged:—

1928			
Oct.	6	Old Citizens	Away
,,	10	R.M.A.	Away
,,	13	Old Carthusians	Home
Oct.	17	University College	Away
,,	20	Old Salopians	Home
,,	24	Banstead Mental Hospital	Away
,,	27	Old Bradfieldians	Home
,,	31	Old Wellingburians	Away
Nov.	3	H.A.C.	Home
,,	7	Ardingley College	Away
,,	10	Old Finchleians	Away
,,	17	Old Brentwoods	Home
,,	24	Old Westminsters	Home
,,	28	Exeter College	Home
Dec.	1	St. Lawrence College	Away
,,	8	Old Malvernains	Home
,,	15	Old Hurst-Johnians	Home
1929			
Jan.	9	Banstead Mental Hospital	Away
,,	12	Old Brentwoods	Away
,,	16	University College	Home
,,	19	H.A.C.	Away
,,	23	Emmanuel College	Away
,,	26	Old Bancroftians	Home
,,	30	Exeter College	Away
Feb.	2	Old Westminster Citizens	Away
,,	6	*2nd Round University Cup*	
,,	9	Old Citizens	Home
,,	13	R.M.A.	Home
,,	16	Broomfield	Home
,,	20	Emmanuel College	Home
,,	23	Clare College	Away
,,	27	Hertford College	Home

Hockey Club.

By F. R. Hayward.

ALTHOUGH last season was very successful as regards Cup matches, the ordinary games were unsatisfactory. It was noticeable that although on practically every occasion when we were able to turn out a full side we won, such occasions were lamentably few.

This year we should not have the same trouble. Our new ground at Edgware, although not perfect, has many advantages over Elmers End. It is nearer the station, trains are more frequent, the changing accommodation is better and the fares less.

The fixture list is much the same as last year. We still retain the old favourites: Staff College, R.M.C. Sandhurst, R.N. Chatham and East Grinstead, but in addition we have fixtures with Dulwich, Old Loughtonians and Cranleigh School.

It was very gratifying to notice the increase in the number of spectators at the final last year, assuredly a great factor in our victory, and which we hope is an indication of the revival of interest in this Club.

It is too early in the season to know if there is any new talent amongst the new members, but we are hoping, with the nucleus we already possess, to produce teams this year that will help towards the adornment of the "Spit."

F. E. Camps has been re-elected captain, H. O. Lyne vice-captain and F. R. Hayward hon. sec.

Will all new members please express their intention of playing by adding their names to the list on the Hockey Board, and also help by reading the notices which are posted on this board from time to time.

The Rowing Club.

By F. H. Stevenson.

THOSE who row at Guy's become members of the London Rowing Club, Putney, but though we use the Club, boats, etc., we row as a separate body. Our subscriptions to the L.R.C. are paid by the Clubs' Union. We thus have the advantages of membership of an excellent club with a minimum of extra expense.

Guy's has always been prominent in Inter-Hospital rowing since the foundation of the Inter-Hospital Rowing Club in 1885. From 1921 to 1927 inclusive, we held the Senior Cup for Light VIII's, but this year lost to St. Thomas's by 2 lengths, though still beating St. Bart.'s. By next summer practically the whole of this year's VIII will have left, and so new members, particularly such as have rowed before at school or 'Varsity, will be extremely welcome.

There is a list on the Rowing Club Notice Board for all intending members to sign. Any who care to come down several times without pledging themselves can do so. The London Rowing Club is on the towpath just above Putney Bridge on the Surrey side of the river. The journey takes 25 minutes from Waterloo.

Any further information may be obtained from any member or from the Hon. Secretary, F. H. Stevenson.

Wednesday and Saturday afternoon rowing goes on all through the winter and, being the best time for coaching, is most important from the point of view of next summer's VIII and IV.

Cross-Country Running.

THE attention of all members of the Clubs' Union who are interested in cross-country running is drawn to the United Hospitals' Hare and Hounds. This Club has its headquarters at Hayes (Kent), where runs are held every Wednesday afternoon at 3 o'clock throughout the winter months. During the season there are fixtures with other clubs and public schools. A train leaves London Bridge (High Level) at 1.57 p.m., and reduced return tickets may be obtained for 1*s.* 7*d.* The Club is badly in need of new members, and it is hoped that as many Guy's men as possible, newcomers particularly, will come down and run.

Guy's Hospital Golfing Society.

President—H. C. Cameron, Esq., M.D., F.R.C.P.
Captain—W. J. Cotton.
Hon. Secretary—P. H. Lomax.
Committee—E. C. Duffett, L. W. Cann, S. H. Croot, O. Ive, L. B. Langmead, K. Whitworth.

THE Society has been very active this year, but it is unfortunate that we are not able to record victories in more of their matches. The standard of golf has improved amongst the members, and soon it is hoped that Guy's will be represented by a team of single-figure handicap men.

In considering the season's matches one of the first which springs to the mind is the Staff match. For this we are indebted to Mr. Bromley and to the Staff for taking the trouble to dispense with their work for the day. During the season the Society has played the Hastings Medico Dental Society, the R.A.M.C., Sidcup, Shortlands and Bellingham.

Apart from matches, the Society holds certain competitions during the season. There is a competition every month for a Silver Spoon played off handicap. The Staff of the Hospital have presented a Cup which is played for annually by match play under handicap. The winner is entitled to hold the Cup for a year and, in addition, receives a replica. These events take place at Sidcup. The course can be conveniently reached by train from London Bridge to Sidcup in under half an hour. Cheap fares are in operation on the Southern Railway. The course itself is only a few minutes from the station, and is kept in first class condition. Members of Guy's Hospital may play there at a reduced green fee.

At a meeting of the secretaries of the Hospitals it was decided to hold a United Hospitals' Golf Match at Oxhey on November 21st, a Wednesday. There will be two rounds played—each medal rounds—with an optional sweepstake on each round and for the 36 holes. In order to discover talent in the Hospital there is a competition for those who have not got, and who never have had, a handicap. The prize is a Silver Spoon for the two best cards returned by November 1st.

The Society still needs more members, and it is hoped that many new members will join us, not only to replace those who of necessity must leave us, but also to add to our numbers, which at present are all too small.

Inter-Hospital Cup

In the first round we have drawn University College Hospital, but the date of play has not yet been arranged.

Competition Results

November, 1927, *Medal*—E. C. Duffett (13), 94—13=81.

December, 1927, *Bogey*—A. T. D. Gibbings (12), 5 down.

February, 1928, *Bogey*—E. C. Duffett (13), 3 down.

March, 1928, *Medal*—E. C. Duffett (12), 86—12=74.

April, 1928, *Bogey*—C. D. Malone (9), 2 down.

May, 1928, *Medal*—O. Ive (12), 92—12=80.

June, 1928, *Bogey*—J. B. Schofield (18), 5 down.

July, 1928, *Medal*—W. L. Mountain (13), 83—13=70.

September, 1928, *Bogey*—E. C. Duffett (10), 2 up.

Match Results

v. R.A.M.C., lost by 9 matches to 3.

v. Shortlands, won by $6\frac{1}{2}$ matches to $3\frac{1}{2}$.

a. Sidcup lost by $4\frac{1}{2}$ matches to $5\frac{1}{2}$

v. Bellingham, lost by $2\frac{1}{2}$ matches to $7\frac{1}{2}$.

v. Shortlands, won by $8\frac{1}{2}$ matches to $1\frac{1}{2}$.

v. Staff, lost by $12\frac{1}{2}$ matches to $8\frac{1}{2}$.

v. Hastings Medico Dental, lost by 9 matches to 6.

v. Sidcup, drawn, 4 matches each.

v. R.A.M.C., lost.

The Staff Cup, owing to the large number of entries, has only reached the semi-final stage.

Entry of Students, October, 1928.

Medical.

Name	*Year*	*School*
Blumenthal, C. J.	1st Year	Selborne College, East London, South Africa.
Brown, A. G. T.	1st Year	Bromley County School.
Carleton-Eckert, L.	3rd Year	University of Toronto.
Costobadie, H. P. de	1st Year	Epsom College.
Cresswell, P. E.	3rd Year	Exeter College, Oxford.
Duggan, E. R.	4th Year	Jefferson Medical College, U.S.A.
Edwards, H.	4th Year	School of Medicine, Cardiff.
Feitelberg, L. B.	1st Year	Durban High School, South Africa.
Fowler, W. T. J.	1st Year	Worksop College.
Frumin, J.	3rd Year	University of Cape Town.
Gardener, N. W.	1st Year	St. Joseph's College.
Gardner, W. J.	2nd Year	Gresham's School, Holt.
Gareh, E.	1st Year	Clifton College.
Gibbs, H. V. C.	1st Year	King's College School, Wimbledon.
Greany, W. H.	4th Year	Queen's College, Oxford.
Grocott, J.	2nd Year	Longton High School.
Hall-Smith, G. W.	4th Year	St. John's College, Cambridge.
Hamilton, W. H.	1st Year	Beckenham County School.
Harrison, G. O'H.	1st Year	Munro College, Jamaica.
Henry, J. C.	1st Year	Haberdasher's School, Hampstead.
Heppolette, J. E. R.	4th Year	France.
Heys, C. F.	1st Year	Durban High School, South Africa.
Hodgkin, H. M.	1st Year	King's College, Cambridge.
Howell, J.	3rd Year	Pembroke College, Cambridge.
Howell, T. E.	1st Year	Private.
Irish, N. W.	1st Year	St. Paul's School.
Irvine, J. T.	4th Year	Gonville and Caius College, Cambridge.
Jacoby, N. M.	1st Year	Parktown High School, Johannesburg.
Jones, I. O.	4th Year	School of Medicine, Cardiff.
Jones, P. G. C.	1st Year	St. John's College, Leatherhead.
Knight, R. G.	3rd Year	Pembroke College, Cambridge.
Lamb, N. L.	4th Year	School of Medicine, Cardiff.
Lea, J. M.	1st Year	Hertford College, Oxford.
Ledlie, S. M.	1st Year	Whitgift Middle School.
Lewis, Windsor H.	3rd Year	Pembroke College, Cambridge.
Lindsey, M. J.	2nd Year	Caterham School.
Lopez, V. J.	3rd Year	India.
Loughlan, H. R.	1st Year	Eastbourne College.
McArdle, B.	2nd Year	Wimbledon College.
McArthur, J. B. H.	1st Year	University School, Hastings.
McArthur, J. McA.	1st Year	University School, Hastings.
Mackenzie, L. G.	2nd Year	Natal University College, South Africa.
Martin, C. A. W.	1st Year	Canford School, Wimborne.
Oliver, L. C.	1st Year	Latymer Secondary School.
Pitt-Payne, J. F.	1st Year	Dulwich College.
Price, D. G.	1st Year	Malvern College.
Pryn, E. J.	1st Year	Kelly College, Tavistock.
Sharp, E.	4th Year	Caius College, Cambridge.
Singer, J. P.	4th Year	Pembroke College, Cambridge.
Sobiya, L.	1st Year	Bangkok.
Spearman, J. B.	1st Year	King's School, Canterbury.

Name	*Year*	*School*
Stuart, J. S.	1st Year	Royal Grammar School, Colchester.
Taneja, B. L.	5th Year	Punjab University.
Trethowan, L. N.	1st Year	Plymouth College.
Van Essen, W. M.	1st Year	Eltham College.
Wass, S. H.	1st Year	Queen Elizabeth Grammar School, Mansfield.
Webb, E. A.	1st Year	Dean Close School, Cheltenham.
Wheatley, P. R.	1st Year	St. Dunstan's College.
Wilkinson, P. A.	1st Year	Northampton County School.
Williams, E. W. M.	4th Year	School of Medicine, Cardiff.
Wong, B. L. E.	1st Year	Queen's College, British Guiana.
Wood, C. E. R.	4th Year	Pembroke College, Cambridge.
Zorab, E. C.	1st Year	Cheltenham College.

Medical and Dental.

Alexander, J. M.	1st Year	Felsted School.
Bowles, V. H.	1st Year	Dunstable School.
Brocklebank, J. A.	1st Year	Wilson's Grammar School.
Burch, H.	1st Year	Margate and Dover Colleges.
Johnson, R. A.	1st Year	Pocklington Grammar School.
Merrill, L.	1st Year	Baines' Grammar School.
Morton, W. E.	1st Year	King's School, Rochester.
Parfitt, G. J.	1st Year	Leighton Park School, Reading.
Rowlett, J. A. T.	1st Year	Oundle School, and Trinity Hall, Cambridge.
Stubbs, H. R.	1st Year	Drax Grammar School, Yorks.
Thompson, J. H.	1st Year	Dulwich College.

Dental.

Bateman, G. W. B.	1st Year	Sherborne School.
Bloor, F. J.	1st Year	County School, Gillingham.
Brown, C. K.	1st Year	Bridlington Commercial School.
Carr, J. C.	1st Year	Scarborough College.
Carr, T. E.	1st Year	Kent College, Canterbury.
Clarke, D. J.	1st Year	Reigate Grammar School.
Clough, E. O.	1st Year	Southend-on-Sea High School.
Collyer, W. F.	1st Year	Eastbourne College.
Cosin, L.	1st Year	Westminster City School.
Cowen, H.	1st Year	Gray High School, Port Elizabeth, South Africa.
Cowling, R. J.	1st Year	Hoe Grammar School, Plymouth.
Darlow, J. E.	2nd Year	Clee Grammar School.
Fairfax, D. A.	1st Year	Leyton County High School.
Fenson, J. H.	1st Year	Regent Street Polytechnic.
Fisher, A. E.	1st Year	Owen's School.
Freeman, E. J.	1st Year	Dulwich College.
Fuller, A. C.	1st Year	Hurstpierpoint College.
Gibbs, H.	1st Year	University College, Exeter.
Gollings, R. W.	1st Year	Deacon's School, Peterbrough.
Hampson, F. C.	1st Year	Hymer's College, Hull.
Hindle, J. R. C.	1st Year	Cheltenham College.
Houlson, R. G. V.	1st Year	Brentwood School.
Hudson, C. L.	2nd Year	Newcastle High School.
Hunter, G. B.	2nd Year	Ley's School, Cambridge.
Jones, W. A.	1st Year	Clark's College.
Kanaar, H.	1st Year	St. Olave's Grammar School.
Kirton, C. A.	1st & 3rd Year	University College Hospital.
Lawrence, G. W.	1st Year	Brentwood Grammar School.
Marcus-Davis, D. C.	1st Year	Bedford School.
Paterson, J. G.	1st Year	Brondesbury College.
Pryor, A.	1st Year	Liverpool College.
Reeves, G. W. D.	1st Year	Aldershot High School.
Ross, R. W.	1st Year	University of Cape Town.
Rubie, G. J.	1st Year	Eltham College.
Saunders, S. P.	1st Year	King's College School, Wimbledon.
Somerville-Woodiwis, L.	1st Year	Durham University.
Sparg, P. G.	1st Year	Marist Brothers' College, Uitenhage, South Africa.
Stanger, H. A.	1st Year	Giggleswick School, Yorks.
State, A.	1st Year	Tottenham County School.
Stevenson, D. P.	1st Year	Epsom College.
Stewart, H.	1st Year	Whitgift Grammar School.
Symonds, L.	3rd Year	Leeds and Bristol University.
Thurston, G. L. B.	1st Year	Dulwich College.
Turner, A. W.	1st Year	Cranleigh School.
Wallis, S. R.	1st Year	St. Bee's, Cumberland.
Westoby, H. W.	1st Year	Hymer's College, Hull.

GUY'S HOSPITAL MEDICAL SCHOOL.

TIME TABLE. WINTER TERM, 1928.

SUBJECTS FOR FINAL EXAMINATION. MEDICAL.

Subject	Lecturer	Days and Times	Place	First Class or Lecture
Applied Anatomy	Professor Johnston	Wednesdays at 12 noon	Demonst'n Theatre	Wednesday, October 3
Forensic Medicine	Dr. Ryffel	Thursdays at 4.30 p.m.	Class Room 3	Thursday, October 4
General Pathology	Professor Donaldson	Lectures—Tues., Thurs. and Fridays at 12 noon	Pathol'cal Theatre	Tuesday, October 16
		Practical—Daily at 9 a.m.	Path'cal Class Room	Tuesday, October 16
Medical Pathology	Dr. Marshall	Tuesdays and Thursdays at 12 noon	Museum	Tuesday, October 16
Surgical Pathology	Mr. Davies-Colley	Mon. and Thurs. at 4.45 p.m.	Museum	Monday, October 8
Operative Surgery	Mr. Hughes	Mon. and Fri. at 12 noon	Op. Surg Class Rm.	Friday, November 16
Ophthalmology	Mr. Ormond	Tuesdays, 9.15 to 10 a.m.	Pathological Th'tre	Tuesday, October 9
Radiology	Mr. Redding	Tuesdays at 4 p.m.	Anatomical Theatre	Tuesday, October 23

ORGANIC CHEMISTRY, ANATOMY, AND PHYSIOLOGY.

Subject	Days and Times	Place	First Class or Lecture
Organic Chemistry (2nd M.B., Part I)	Lectures—Weds. & Fridays 9.30 a.m. Practical—Mons. & Thurs. 10–1 p.m.	Chemistry Theatre Chemistry Laboratory	Lectures—Friday, October 5 Practical—Thursday, October 4
Anatomy	Elementary Lectures— Mons. 9.30 a.m. Weds. 11 a.m.	Anatomical Theatre	Wednesday, October 3
	Senior Lectures (Neurology)— Tues. and Thurs. at 9.30 a.m.	Anatomical Theatre	Tuesday, October 9
	Revision Classes— To be announced later	Demonstration Theatre	To be announced later
	Practical Anatomy— Daily from 9.30 a.m. to 5 p.m.	Dissecting Room	Tuesday, October 2
	Primary F.R.C.S.— To be announced later	Demonstration Theatre	Tuesday, September 25 at 2 p.m.
	Normal Histology Tues. at 2 p.m.	Histology Laboratory	Tuesday, October 9
Physiology	Elem. Expt. (All Junior Students)— Fri., 11–1 p.m. Sat., 10–12 noon	Experimental Physiological Laboratory	Friday, October 5
	Adv. Chem. (Senior M.B. Students)— Mons. and Weds., 11–1 p.m.	Chemical Physiological Laboratory	Monday, October 8
	Clinical Physiology (All Students)— Thurs., 12–1 p.m.	Clinical Theatre	Thursday, October 4
	Tutorial Classes— Elementary— (Junior Medical Students) Advanced— (All Senior Medical Students)	To be arranged at a General Meeting of Medical Students attending courses in Physiology, to be held in the Physiological Theatre on Tuesday, October 2nd, at 10.30 a.m.	

CHEMISTRY, PHYSICS AND BIOLOGY.

Course	Subject	Lectures	Place	Practical Classes	Place
Pre-Medical Conjoint	Inorganic Chemistry	Tues. & Thurs. 9.30 a.m. First Lecture, Tues., Oct. 9, at 9.30 a.m.	Chemistry Theatre	Tues. & Thurs. 2–5 p.m. First Class, Thurs., Oct. 4, at 2 p.m.	Chemistry Laboratory
	Physics	Tues. & Thurs. 10.50 a.m. and Tues. at 12 noon. First Lecture, Thurs., Oct. 4, at 10.50 a.m.	Class Room IV	Mons. 10–1 p.m. and 2–5 p.m. First Class, Mon., Oct. 8	Physics Laboratory
Conjoint	Biology	Weds. 9.30 a.m., Thurs. 12 noon Fri. 9.30 a.m. First Lecture, Wed., Oct. 3, at 9.30 a.m.	Anatomical Theatre	Mons. & Fridays 2–4 p.m. First Class, Fri., Oct. 5, at 2 p.m.	Biology Laboratory
M.B. London	Chemistry	Tues. & Thurs. 9.30 a.m. First Lecture, Tues., Oct. 9, at 9.30 a.m.	Chemistry Theatre	Mons. 10–1 p.m., Tues. 2–5 p.m. First Class, Mon., Oct. 8, at 10 a.m.	Chemistry Laboratory
	Physics	Tues. & Thurs. 10.50 a.m., and Tues. at 12 noon. First Lecture, Thurs., Oct. 4, at 10.50 a.m.	Class Room IV	Thurs. and Fridays 2–5 p.m. First Class, Thurs. Oct. 4, 2 p.m.	Physics Laboratory
	Biology	Weds. 9.30 a.m., Thurs. 12 noon, Fri., 9.30 a.m. First Lecture, Wed., Oct. 3, at 9.30 a.m.	Anatomical Theatre	Weds. & Fridays 10.30–1 p.m. & Sats. 11–1 p.m. First Class, Wed., Oct. 3, at 10.30 a.m.	Biology Laboratory

GUY'S HOSPITAL DENTAL SCHOOL

TIME TABLE—WINTER TERM, 1928

Subject	Lectures	Place	Practical	Place
CHEMISTRY	Tuesdays and Thursdays at 9.30 a.m., commencing on Tuesday, October 9th	Chemistry Theatre	Tuesdays and Thursdays at 2 p.m., commencing on Thursday, October 4th	Chemistry Laboratory
PHYSICS	Tuesdays and Thursdays at 10.50 a.m., and Tuesdays at 12 noon, commencing on Thursday, October 4th	Class Room IV	Mondays from 10 to 1 p.m., and from 2 to 5 p.m., commencing on October 9th	Physics Laboratory
DENTAL METALLURGY ..	Mondays, Wednesdays and Fridays at 12 noon, commencing on Friday, October 5th	Chemistry Theatre	Thursdays at 2 p.m., commencing on October 11th	Metallurgical Laboratory
DENTAL MECHANICS	Mondays at 2.30 p.m., commencing on Monday, October 8th	Anatomical Theatre	Fridays at 1.45 p.m., commencing on October 5th	1st and 2nd Years' Laboratory
ANATOMY	(1) *Junior Lectures*— Mondays at 9.30 a.m., Wednesdays at 11 a.m., commencing on Wednesday, October 3rd (2) *Demonstrations*— *(a)* Bones— Tuesdays at 10.30 a.m. *(b)* Soft Parts— Thursdays at 9.30 a.m., and Fridays at 10 a.m., commencing Thursday, October 4th	Anatomical Theatre Anatomical Demonstration Theatre	Daily from 9 a.m. to 5 p.m., commencing on Tuesday, October 2nd	Dissecting Room
PHYSIOLOGY	Thursdays 10.30 a.m., commencing on Thursday, October 4th	Physiology Theatre	Thursdays at 11 a.m., commencing on October 4th	Physiological Laboratory
HISTOLOGY	Tuesdays at 2.30 p.m., commencing on October 9th	Biological Laboratory		
PATHOLOGY	Times to be announced later	Pathological Theatre	Times to be arranged	Pathological Class Room
DENTAL ANATOMY ..	Fridays at 12.15 p.m., commencing on October 12th	Physiological Theatre		
DENTAL HISTOLOGY	Mondays at 2 p.m., commencing on October 8th	Physiological Theatre	Mondays at 2.30 p.m., commencing on October 8th	Histological Laboratory
GENERAL SURGERY	Tuesdays at 1.15 p.m. Thursdays at 3 p.m. Fridays at 1.15 p.m. Commencing on Tuesday, October 9th	Class Room IV Physiological Theatre Clinical Theatre		
DENTAL SURGERY ..	Mondays at 4.15 p.m., commencing October 8th	Anatomical Theatre		

* N.B.—New Regulation L.D.S. Students in their Second Term of Human Anatomy must attend (*a*), and may attend (*b*) if they so desire.
Old Regulation L.D.S. Students and New Regulation Students in their Third Term of Human Anatomy must attend both (*a*) and (*b*).

Sport.

Rugby.

Guy's *v.* Catford Bridge

THIS match was played at Honor Oak Park on Saturday, September 22nd, and resulted in a win for the Hospital by 4 goals 3 tries (29 points) to 1 penalty goal (3 points).

As is customary, we opened our season at home against our old friends and neighbours Catford Bridge.

It was a glorious day and the ground was in perfect condition, thanks to the groundsman, who had taken the precaution to see that the pitch was well watered.

Included in the visitor's side were three old Guy's men, namely, their captain, E. W. Hutchinson, a former forward, F. Bekker, known to many as one of the best scrum halves we ever possesed, and J. G. van Schalkwijk, at fly half, whose kicking is as good as ever.

Since the close of last season Guy's have lost several familiar faces—B. G. Scholefield, the old Oxford Blue, has definitely retired from the game, V. R. Preen has returned to South Africa, Cullinan

has obtained a commission in the Air Force, whilst Simpson-Smith and Cameron—a former captain—are ineligible to appear.

Most of the Freshers will not arrive until early in October, so Guy's took the opportunity of promoting those of the "A" XV who did so well last season in securing the Kent County Senior Cup. With the exception of Popplewell and Myburgh, the rest of the forwards consisted of last year's reserve pack.

In the back division Windsor Lewis, the Welsh International and Cambridge fly half, made his first appearance. He gave a capital exhibition, and was a constant source of danger to the opposition.

At scrum half Eustace took the place of Garland and showed a marked improvement on the form displayed last year.

It is a great pity that Garland is not fit, and we all hope that he will be restored to good health very soon.

There is sure to be keen rivalry for the position at scrum half, as J. Howell of Pembroke College, Cambridge, has arrived, and it is said that both he and Lewis have an excellent understanding.

P. D. B. Spence, who is working hard to finish his finals, and C. D. Malone, who is nursing a damaged knee, were both absentees from the opening game.

The form displayed by Guy's in this match was most encouraging. The forwards worked very hard under the leadership of Popplewell and held their own against a much heavier pack. Myburgh was in good form and hooked the ball with his usual skill.

Our backs gave a fine exhibition and appeared to have a complete understanding. Their handling of a light ball was excellent, but both sides made mistakes which were excusable.

It was a fine, clean, sporting game from start to finish, and the referee, Mr. Trollope, had quite a joy-day.

From the kick-off Guy's pressed, and a brilliant burst by Windsor Lewis soon saw Catford defending their line. Van Schalkwijk relieved with a huge kick, but only a moment elapsed before Guy's were back to the attack. A fine reverse pass from Windsor Lewis enabled F. H. B. Spence to break through the visitor's defence. After tricking three opponents he crossed the line for Tregarthen to convert.

From the kick-off our backs again secured possession, but when a score appeared certain Robinson just failed to receive a pass from Ryan.

Catford relieved with a forward rush, but Ryan found touch. From the line-out Guy's pressed, but Van Schalkwijk sent us back to our 25. Two excellent rounds of passing along the whole of our back division followed, but keen marking delayed progress.

However, Windsor Lewis seized an opportunity to go through on his own and, passing to Ryan, the latter was able to cross the line for Hogbin to kick an excellent goal.

After midfield play the ball was carried by our forwards to the visitors 25. Following a scrum, Eustace secured and, although tackled by their full back, succeeded in scoring near the posts, for Tregarthen to convert.

Just prior to the interval we were penalised, and E. W. Hutchinson kicked a magnificent goal from five yards off the halfway line.

Following this reverse the Guy's pack returned to the attack, and by loose rushes carried play to Catford's goal line. A bad blunder by their full back allowed Morgan, who had followed up, to knock the ball from his hands, and touch down smartly, Tregarthen failing with the kick.

Interval—Guy's 18 points, Catford Bridge 3 points.

After the breather Guy's continued to dominate the game, and on several occasions our three's were pressing, Windsor Lewis, Ryan and Robinson showing up in particular. Following a scrum, Ryan gave to Clarke for the latter to score, which Tregarthen converted with an excellent kick.

Catford then set up a short spell of pressure, in which Wood and Boty were prominent, but lack of support spoilt one or two promising movements and nothing resulted.

Near the end another combined movement between Ryan, Spence and A. J. D. Lewis saw the latter cross too far out for Hogbin to convert. Close on time another good move between Ryan and Robinson enabled Clarke to finish the movement by a smart touch down. Hogbin just failed with a difficult kick.

Hogbin was outstanding—he has improved considerably since last season. Myburgh hooked splendidly, whilst Popplewell led the team with plenty of enthusiasm.

Windsor Lewis played an excellent game. Seizing every opportunity, he was always in the right place and was ably supported by Eustace, Ryan and Spence, who were very reliable.

Guy's Team—J. C. Hutchinson; T. G. Robinson, D. F. Ryan, F. H. B. Spence, A. J. D. Lewis; H. Windsor Lewis, J. W. Eustace; J. R. F. Popplewell (capt.), W. H. Myburgh, R. A. P. Hogbin, T. Morgan, A. R. Clarke, G. F. Lashmore, J. C. T. Tregarthen, D. S. Clogg.

Eds. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

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PASSIM

MUCH has been seen in the Press recently concerning Study, and more particularly Medical Study. A fortnight ago we ourselves were guilty of pages of advice, as alarming as it was prolific, to those who were about to commit themselves to a life of medical study. We say alarming without, we most sincerely hope, hurting the feelings of our contributors. For all advice about study must surely be alarming, since it forces us to regard the acquisition of knowledge as a grim business before we start. There is, too, a sneaking feeling of indignation at the back of our minds that anyone else should dictate to us *how* we should study. They should be content to know that we have acquired the necessary knowledge without asking how we did it or suggesting a better method for doing it in future. We are very conservative about these things. We may kick ourselves because we succeed in reading only three pages of anatomy over our fire in the evening when we had fully intended to read fifty. We may exhaust our store, no mean one, of condemnatory phrases because, although we thoroughly perused two chapters of pathology last night, we have forgotten every word of it this morning. But we are not inquisitive. We do not ask ourselves *why* we fell asleep over our anatomy book, or *why* pathology is so elusive to us. Perhaps it is because our consciences, be they never so sluggish, tell us that we are either lazy or stupid, a point of view obviously distasteful to us. But the psychologists are kinder to us than our consciences. In this issue of the GAZETTE will be found an extremely interesting and illuminating paper by Dr. R. D. Gillespie on this very subject of study, which, he says, is an art in itself, even though the study be that of a science.

Dr. Gillespie, while destroying an old established illusion in denying the existence of mental fatigue, yet gives us a cause for " brain fag " in emotional worry or anxiety. He cheers us by recommending periods of freedom from conscious mental efforts, and leads us on to hope that our most intelligent ideas may come to us during these periods. We ourselves frequently are aware of achieving mental brilliance while soaking in a hot bath or drowsing peacefully on the sea shore. We feel, however, that it would be extremely risky to pursue this principle in working for an examination, although we are often sorely tempted to do so. Again, we find that the man we had always envied, who could at will produce from some hidden cerebral recess the exact percentage of hydroxy-phenyl-ethylamine in Brown's Solution is really akin to the imbecile who had at his fingers' ends full details of all deaths and burials in a certain family for a period of 50 years, and yet was entirely incapable of keeping himself clean.

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As we go to press we see that Mr. C. H. Fagge, M.S., F.R.C.S., will deliver the Bradshaw Lecture in the Theatre of the Royal College of Surgeons, Lincoln's Inn Fields, on November 8th, 1928, at 5 p.m. The subject of the address will be " Axial Rotation, Purposeful and Pathological." All Fellows and Members of the College are invited, and students and others will be admitted on production of their visiting cards.

▭

IN spite of the painful nature—we speak from personal experience—of the usual procedures involved in the eradication of dental caries we have always remarked on the comparative infrequence of active vocal protest on the part of those condemned to the refinements of torture now practised in the Conservation Room. Imagine our astonishment therefore on passing the Dental Department

one evening quite recently to hear a more or less united yell suddenly emerge from the inner depths of that grim edifice as if several pointed niblicks had with one accord probed the utmost limits of several pet cavities to the complete and utter destruction of the stoic self control of the several owners of those cavities who had in consequence made a simultaneous and most emphatic choral objection. But the hour was late even for the dastardly work of the dental surgeon, and we were driven to further investigation, which elicited the interesting information that after all it was only a further burst of activity on the part of the Musical Society, who have, it appears, progressed from a very profitable pseudo-oriental political intrigue to a definite career of practical piracy. Incidentally, last year's Titiputian trifling benefited the Hospital by the substantial sum of £65.

This year, we are told, piratical tenors of " cat like tread " will vie in our entertainment with less stealthy, if not less vocal, forces of the law, whose combined ta-rao-ta-ra may well wake the dead. All of which brings us to the important fact that four performances of the *Pirates of Penzance* are to be given at the Rudolf Steiner Hall on December 5th, 6th, 7th and 8th, so that, in Gilbertian parlance, Mr. Winston of the Wills Library is now saying :—

" Here's a first-rate opportunity
To get *tickets* with impunity
And indulge in the felicity
Of unbounded *front seat*-icity."

▭

The Guy's Hospital College Catering Company has started a new lease of life. Like all biological beginnings, this shows at present a vigorous and flourishing existence. It is at this point that the seasoned campaigner in the College shakes his hoary head and mutters beneath his breath something which, properly interpreted, indicates his strong belief that this delicious state of things cannot last. We believe him to be wrong. There is no reason why a " home-grown " catering company should not satisfy all wants entirely. To do this, however, its early youth must be carefully nurtured and encouraged. Therefore we exhort all members of the Clubs' Union to patronise the dietetic arrangements of the College, and not, at the first provocation—of which there are bound to be many—to desert them for better-established local chop-houses.

▭

"In Faith and Hope the world will disagree,
But all mankind's concern is Charity."

Once again the Stock Exchange Dramatic and Operatic Society have published their *Help Yourself Annual* in aid of their Christmas Charity Fund. For the modest sum of 2*s*. 6*d*. one can purchase an amusing magazine and the sporting chance of winning anything from a motor car to a box of soap. Besides slaking the thirst for a gamble, this small outlay also satisfies the charitable instinct. For, in the last two years, this Fund has distributed £80,000 to various hospitals and charities. The *Annuals* are available in the Counting House.

We have recently received a small book setting out the aims and objects of the newly-formed Sports Fellowship. This is really a charity organisation, which, besides the rather idealistic and ethereal, but entirely desirable, ambition of creating a universal spirit of fellowship and good feeling among " sportsmen," has for its aim the provision of adequate recreation space and sufficient means for giving exercise and fresh air to poor children. At the same time its organisers and supporters, among whom are many famous names of athletes, public men and women, stage celebrities and others, intend that the movement shall arrange charity performances and matches of various kinds for the benefit of the hospitals. There are many methods of becoming a member of this organisation, either as a single member at an entrance fee of 5*s*. or as a member of a " team " at an individual fee of 2*s*. 6*d*. Full details of the scheme and enrolment forms may be obtained from the Secretary, 201a, High Holborn, W.C.1.

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We see that a new house appointment has been created—that of a Fifth House Physician. He will be H.P. to the Skin and Neurological Departments and will start his duties on December 1st. By the time this issue appears the appointment will have been made.

▭

We have to record the deaths of two well-known old Guy's men. At Folkestone, Thomas Eastes, M.D.Lond., F.R.C.S.Eng., who obtained the M.D. Gold Medal in 1875 and First Class Honours in the London M.B. for Medicine and Obstetrics in 1874, died recently.

On September 21st, Robert Knox, M.D., M.R.C.P., D.M.R.E., M.I.E.E., at the age of 61, died in London. Having trained at Guy's and Edinburgh, Dr. Knox graduated in 1892 and went into practice in Highgate in 1894. When X-rays were discovered he immediately studied this subject and later specialised in it entirely, eventually rising to the greatest eminence among radiologists. Most of Dr. Knox's best work was done at the Cancer Hospital, Fulham, where he had, at the time of his death, made plans for a team attack on the question of radium treatment of cancer during the coming year.

Obituary.

Frank Percival Hughes, M.B., B.S.

FRANK PERCIVAL HUGHES entered Guy's in October, 1897, and took his Conjoint in 1904. He was appointed Clinical in June of the same year, later acting as Assistant House Surgeon to the late Mr. L. A. Dunn. Following this appointment he became Obstetric Resident and eventually acted as the late Dr. Horrocks' Resident Officer. From Guy's he went to the Bethlem Royal Hospital, where he served as Medical Officer for a number of years, taking his London M.B. in 1907. After that he served in a similar capacity at the Three Counties' Asylum, thus gaining much experience in mental diseases. Eventually he instituted a nursing home at Pinner for this type of case. He was peculiarly fitted for this work, and was very successful in the treatment of a number of cases. "Pa" Hughes, as he was known to his friends, married the widow of Dr. Herman Trive in 1910. During the war he was appointed Bacteriological Assistant at the Government lymph laboratory, and soon after the war he became interested in the establsihment of the Northwood and Pinner Hospital, serving on the committee from its inception. During the past year his health had been none too good and while on a visit to his sister in Bristol he was taken suddenly ill with a perforated duodenal ulcer. In spite of an immediate operation, followed in a few days by a second one, he succumbed at the early age of 54.

H. C. M.

Some Cases of Hoarseness.

A Lecture given by Mr. Mollison, at Guy's Hospital, on July 11th, 1928.

GENTLEMEN,—At a recent lecture we were talking about dysphagia due to pharyngeal paralysis. To-day I want to talk about cases of laryngeal hoarseness or aphonia, due to fixation of the arytænoids on the cricoid or to laryngeal paralysis. You remember that the cricoid cartilage carries on it the arytænoid cartilages, and between them is a diarthrodial joint which allows a side-to-side movement and a rotary movement on a vertical axis. The vocal cords stretch from the vocal processes of the arytænoids to the re-entrant angle of the thyroid cartilage. Phonation depends on the approximation of the cords, and this is brought about (*a*) by sliding movements of the arytænoids towards one another through the agency of the interarytænoideus muscle, and (*b*) by rotation of the vocal processes inwards through the forward pull of the lateral crico-arytænoideus muscle on the vocal process of the arytænoid cartilage.

Clinically, the separation of the cords, as occurs in inspiration, is more important and the muscle that causes this abduction is the crico-arytænoideus posticus,and acts by a backward pull on the muscular process of the arytænoid cartilage.

[Then followed blackboard diagrams by which the lecturer explained the relations of the arytænoids and cricoid and their muscles and nerves.]

Those are just the main relations I want to give you before we pass on to the clinical aspects of this matter. Consider what it is that causes lack of movement of the vocal cords. There are two main causes. One is mechanical fixation at the crico-arytænoid joint; this obviously frustrates the efforts of the muscles. The result is complete immobility of one, or both, vocal cords, and therefore hoarseness and perhaps dyspnœa, depending on the position of fixation. The other cause is paralysis of the muscles moving the cords.

Now we must consider the interesting pathological feature of vocal cord paralysis. Many years ago Sir Felix Semon noted an important feature of cord paralysis; as the result he was able to state that organic paralysis was always abductor in the first instance, and this is of such importance that it is referred to as Semon's law. Semon observed the fact that in cases of paralysis of the muscles of the larynx the first muscle to be affected was the abductor; in other words, paralysis of the crico-arytænoideus posticus muscle took place sooner than paralysis of any other muscle of the larynx. though eventually all might become involved. This observation was confirmed in various ways both by microscopical examination of the recurrent laryngeal nerve, the fibres going to the posticus being found externally, and

experimentally, by Semon and others. Animals that had been recently killed were examined; it was found that stimulation of the recurrent laryngeal nerve produced adduction, but failed to produce abduction of the cords. In other words, the nerve fibres going to the abductor muscles ceased to carry impulses sooner than those supplying the adductor muscles. It has been observed also in human beings, shortly after death, that stimulation of the recurrent laryngeal nerve will produce adduction of the vocal cords, but fails to produce abduction.

This susceptibility of the abductor muscle and nerve has an important clinical bearing. From what I have said, a paralysed cord may be unable to abduct, while it can adduct, but never is the reverse true. This means that should a cord fail to adduct while it can abduct, organic disease is absent, and the patient is suffering from a functional lack of movement.

To repeat, hoarseness or lack of voice may be due to:—

(*A*) Fixation of the arytænoid on the cricoid cartilage;

(*B*) Paralysis of the muscles that move the cords.

Let us now consider these two classes.

(*A*)—Fixation may be due to affection of the joint which is a diarthrodial one with a capsule and thus susceptible of inflammations; in other words, an arthritis.

The tissues round may be the seat of inflammation—a periarticular inflammation.

The perichondrium may be attacked, either a traumatic perichondritis or a syphilitic perichondritis.

Lastly, infiltration of the tissues superficial to the joint spreading to the deeper layers—*e.g.*, growth in the pyriform fossa—and this is a common method by which fixation may occur.

The following cases illustrate some of these conditions:—

Here is an interesting case of a man I saw comparatively recently. He came to me because he had noticed loss of voice since he had quinsy a few weeks previously. On examination of his larynx I found the left cord entirely fixed, and the right cord on phonation was pulled up to it. No doubt, this was a case of infective arthritis due to streptococcal infection.

You may ask, "How are we to diagnose lack of movement of the cord due to fixation of the arytænoid as opposed to that due to paralysis of the muscles moving the vocal cords?" In quiet respiration the cords move in and out, but are somewhat abducted; in full inspiration the cords move further outwards, and in phonation the cords come together in the middle line, leaving only the tiniest chink between them. Suppose we have fixation of the left crico-arytænoid joint in the slightly abducted position, what will be the result? The left cord will be fixed. The other cord in inspiration will fly out; in phonation the right cord moves inwards and the arytænoid tries to cross the middle line to the other side. Owing to the fixation of the affected arytænoid it cannot move that arytænoid and is brought to a standstill.

What is the difference between that and paralysis of the cord? Supposing the left cord is paralysed and lies not far off the middle line; on attempted phonation the right cord will move inwards and the arytænoid reach the left arytænoid and will even push it out a little bit, because its muscles are flaccid and it can therefore be moved at the crico-arytænoid joint. That is one important point in diagnosis between the two conditions.

Even if this point cannot be observed, careful laryngeal examination will reveal fixation of the arytænoid cartilage. If the fixation is of long standing the opposite cord may compensate and the voice be very little affected.

I have seen several patients who have an apparently normal voice in whom one has found a fixed cord. Some years ago in routine examination a nurse was found to have a fixed left cord due to fixation at the crico-arytænoid joint. Her voice was normal. She had had scarlet fever some years before and no doubt streptococcal infection had caused fixation of the joint.

Recently we saw at Out-Patients a very interesting boy, 12 years of age. He was hoarse and had become so during the course of an attack of acute rheumatism. On examination the right vocal cord was found to be fixed; a diagnosis of acute rheumatic infection of the crico-arytænoid articulation was made. Such cases are rare, but well recognised.

Here is an interesting case of a clergyman, aged 72, whom I saw last year. He had had a husky voice for three or four years; he said he was not getting any worse, and did not think his voice really bothered him very much. I found that he had complete fixation of the right vocal cord, swelling about the crico-arytænoid joint, and some swelling of the arytænoid. Very likely this was an old infective arthritis of his crico-arytænoid joint, which had been there three or four years.

Of the other causes of fixation, the most common are syphilitic. Here is a case I had some years ago, a man, 59 years of age, who complained of pain in the epigastrium. His voice had been husky 14 days. He said he had complete fixation of the left vocal cord, and difficulty in swallowing fluids, which made him cough. He gave a Weismann reaction and had a syphilitic affection of the crico-arytænoid articulation.

This case was that of a lady, 35 years of age, whom I saw a year ago. She complained of having been hoarse for 10 days. She had fixation of the left vocal cord, and the crico-arytænoid region just below was a little swollen. In affections of the joint some swelling of the tissues round is common, and markedly so in syphilitic affections. This was a case of syphilitic fixation.

Here is one more case, a lady, aged 70, whom I saw last year, and who had been hoarse for a year. She had been diagnosed abroad as a case of paralysis due to aneurysm, but, as a matter of fact, the left artyænoid was fixed. May I add that aneurysm is very rare at the age of 70. The common age for aneurysm is from about 45 to 55. This lady felt perfectly well, she had had no illness of any kind. There is little doubt this was a case of specific affection of the crico-arytænoid joint.

Let us pass now to the second group.

(B)—Paralysis of the Muscles—

The nerve that supplies all the muscles of the larynx, except the crico-thyroid, is the recurrent laryngeal. This nerve really comes from the accessory part of the spinal accessory, and its origin is the nucleus ambiguus.

I need scarcely remind you that the left nerve has a very different course from the right; it passes down to the thorax, winds round the arch of the aorta and passes up again into the neck. The right recurrent passes round the subclavian artery; both nerves come to lie behind the lateral lobes of the thyroid gland before passing into the larynx.

The nerves may be damaged in any part of their course, both may be pressed upon by the thyroid gland, particularly by growth of the gland. The left nerve is liable to be stretched by any affection of the arch by the aorta, notably aneurysm which, indeed, is the commonest cause of paralysis of the left vocal cord.

Here are three unusual cases of damage to the recurrent laryngeal nerve due to actual wounds of the nerve. Each case is of great interest.

One was a man whom I saw in 1916 who had been shot through the chest and lost his voice. He was a sergeant-major, and his loss of voice annoyed him. Examination showed paralysis of the left recurrent nerve. X-rays showed a bullet lying exactly in the concavity of the arch of the aorta; it had picked off the left recurrent laryngeal nerve as it lay against the aorta, and that was the only injury sustained.

Another bullet wound result was in a man with paralysis of the right recurrent nerve. In addition the palate and pharynx were paralysed on the right side. In him we found a bullet at the base of the skull; it had entered below the right ear and lodged about the jugular foramen, and had picked off the nerves which supplied the palate, the pharynx and larynx.

The third case was a man, aged 33, who had a shrapnel wound in 1918, with damage to the larynx. He was sent to me because he was hoarse. He had a big swelling in his neck, due to a recurrent abscess under the wound, and his left cord was immobile and the left side of the larynx damaged. He had a piece of shrapnel in the wound in his neck, and the cause of the paralysis was obvious, direct injury to the recurrent laryngeal nerve in the neck.

We come now to the rather doubtful problem as to whether the thyroid itself gives rise to paralysis of the recurrent laryngeal nerve and the vocal cord. It certainly does. A large thyroid may be a cause of paralysis. The percentage of cases is very variable indeed in different statistics; it is something between 6 and 15 per cent. For instance, from one clinic: paralysis of one or both cords, 10 per cent.; hoarseness, 29 per cent. That was out of 462 cases. Another figure gives 6 per cent. paralysis in 300 cases operated upon. Another man states that in 15 per cent. of intra-thoracic cases paralysis is found.

As to paralysis following operation on the thyroid. That has greatly diminished. It used to be as much as 30 per cent. Results obtained recently show that large numbers of thyroidectomies have been done without any injury to the recurrent laryngeal nerve. As a matter of fact, I have only seen three or four cases of paralysis of the vocal cord after thyroid operation. In two of these it was not the operation itself that produced the paralysis; it was contraction of the scar after operation.

I said before that aneurysm of the aorta is the commonest cause of paralysis of the left recurrent laryngeal nerve. Unfortunately, there does not often appear to be a specimen in the Museum showing the results of aneurysm of the aorta on the left recurent, but there is a specimen of an aneurysm of the subclavian pressing on the right recurrent laryngeal nerve. Here it is, and it shows you the crico-arytænoideus posticus muscle atrophied as a result of that pressure.

I have got some notes of a case in which laryngeal examination helped in the diagnosis of the case. The patient was 62 years of age, and I saw him four years ago. "Ten days ago he caught a chill and his throat got sore. His voice gradually became weaker. He had no pain on talking, but he had to make an effort to talk." When I saw the patient the cords moved, but they did not seem to move equally. I was not quite satisfied that

the left cord was paralysed. At any rate, I was not satisfied that it was normal. I saw him again five or six weeks later, and then the left cord was quite stationary and fixed. That is a very interesting case, because although we see the paralysed cord we very seldom have the fortune to see the cord in the process of becoming paralysed. It is very debatable indeed how long it takes for a lesion to produce complete paralysis of the muscles. Here seems to be a case in which one can speak fairly confidently about it. I saw him on September 12th, 1923, and I have got notes that "the cords do not move equally, but they both move." On October 29th the left cord was quite stationary. So that in this case it took, roughly speaking, six weeks to produce the full result of the lesion. We did not actually prove that this was an aneurysm, but it was perfectly certain that he had some lesion damaging the recurrent laryngeal nerve.

Another man, aged 57, whom I saw just a year ago, had had a weak voice for two months. When eating he had slight difficulty in swallowing. The left cord was paralysed, and we suggested an X-ray of the chest, and an aneurysm of the arch of the aorta was found. There is a cause of paralysis of the left cord shown to be due to aneurysm of the arch of the aorta, and actually he had slight difficulty in swallowing. Those of you who have studied the question of aneurysm will remember how extremely rare that symptom is.

I come to another group of cases which cause paralysis of the vocal cords, cases in which the nerve is involved either in primary growth or in secondary deposits. Here is a rare specimen [shown by lecturer]. This is a case of carcinoma of the œsophagus, in which both recurrents had been involved. The specimen shows atrophy of both posterior crico-arytænoid muscles as the result of involvement of both recurrent nerves in the growth. The patient was a man, 66 years of age, and he had difficulty in swallowing, aphonia and bronchitis. The symptoms were noticed one month before he was admitted to hospital.

The lesions in the chest that can involve the recurrent laryngeal nerve are aneurysm, growth in the mediastinum, affections of the pleura and, possibly, secondary malignant glands also in the chest. I have got examples of all these here that I would like to quote you, because they are interesting. You will see that they are of various ages. The first was a man, aged 43, who was in a hospital where I was asked to see him because he had paralysis of the left vocal cord. He had a mediastinal growth in the left side of the chest.

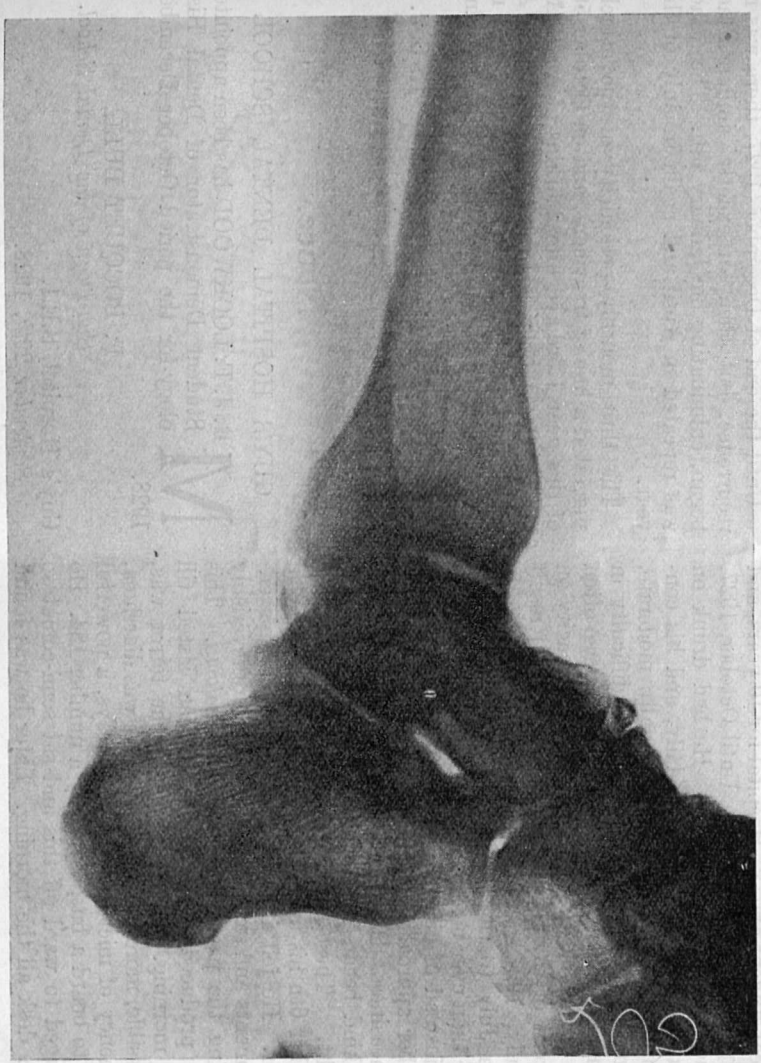
On the other hand, Dr. Smith asked me to see a man, aged 80, three years ago, who was exceedingly ill and became hoarse. He had paralysis of the left vocal cord, and he had glands in his neck and other symptoms of mediastinal growth. He had extensive secondary deposits, and died shortly after I saw him.

A man, 65 years of age, had both cords affected by mediastinal growth. He had hoarseness of two months' duration, shortness of breath, big glands in the neck, and dulness in the upper part of the right chest. The right cord was paralysed, this being possibly due to infiltration of the crico-arytænoid joint by the growth below it. He had no difficulty in swallowing. There were one or two hard glands low down in the right side of the neck. I diagnosed carcinoma of the œsophagus high up, and inferred that the dulness in the right side of the chest was due to secondary glands. I saw him two weeks later, when he had double abductor paralysis. He was sent to a nursing home, where Dr. Fawcett saw him, and found that he had a growth of the mediastinum. A tracheotomy was done on account of severe dyspnœa; as is unfortunately often so, this operation did not relieve him, and he died.

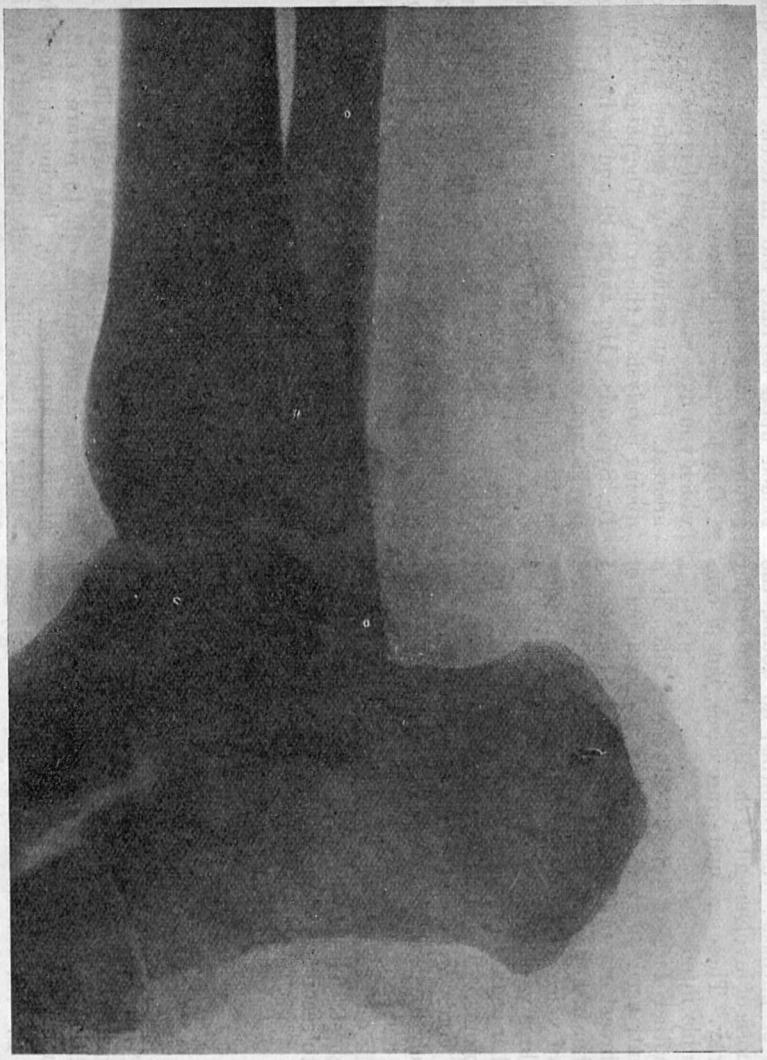
When both vocal cords are completely paralysed the patient is in considerable danger through sudden dyspnœa. The cords then lie close to one another in the so-called cadaveric position; owing to their flaccidity they are apt to be sucked in on inspiration. If the patient for any reason should become excited, or has more exertion than usual, he will tend to suck in his vocal cords on inspiration, with resulting sudden closure of the glottis and perhaps sudden death. That is the reason why double abductor paralysis is such a dangerous condition; so much so that in all cases of double abductor paralysis, from whatever reason—and there are lots of reasons—must always be advised to undergo tracheotomy in the immediate future, since every patient with double abductor paralysis runs grave risk of death from suffocation.

Here is a particularly interesting case in which the paralysis was due to pleurisy. You will remember that the pleura comes into relation with the recurrent laryngeal nerve for a short part of its course; should that pleura be thickened it is possible for the recurrent to be involved in that thickening. This was a case of a man, aged 50, who had been hoarse for three months. "About a year previously he was ill, with râles on the left side of the chest. He gets pain in the chest if he talks much. His left cord was paralysed, and the left radial pulse was weaker than the right. An X-ray of the chest showed old pleurisy. I rang up his doctor for the final result, and he told me the patient had gone to New Zealand and died

SKIAGRAPHIC "SNAGS"



Skiagram A



Skiagram B

These two Skiagrams illustrate two problems for the radiographer. The solutions will be found on the last page of the literature of this issue.

there of phthisis; this confirms, no doubt, the diagnosis of involvement of the nerve by tubercular pleurisy. These are quite rare cases, but of considerable interest.

Another case of interest also was that of a patient, aged 39, who had had a carcinoma of the breast removed here three years before. I saw her in February, 1926, and found she had had loss of voice and some obstruction in swallowing for three weeks. The left cord was paralysed. I saw her again in May, and she had much the same symptoms. Then I saw her in November, and both cords were paralysed. The left cord was entirely fixed, the right showed very little adduction and no abduction. She got shortness of breath on exercise and recurrence of pain in the left chest. This was a case of laryngeal paralysis, due to secondary deposits. Such cases used to be looked upon as rare, but in recent years quite a number have been published.

One last case at present in the Hospital, and which you may want to see, as it is one of unusual interest. It is an example of a central lesion producing paralysis of the cord. The patient is under Dr. Symonds. His age is 19 and he has syringomyelia, apparently of the medulla; the respiratory centre appears to be involved, because his respirations have gone down to six a minute on several occasions. He has paralysis of the left side of the palate, paralysis of the left side of the pharynx and of the left vocal cord; he has thus a lesion of the nucleus ambiguous, picking off the fibres that go to his palate and pharynx and larynx.

Though there are many other central lesions that give rise to cord paralysis, notably tabes, there is no time to go into them now.

A Case of Pseudo-Conjointism.

I PUBLISH the following case as it seems to form an interesting corollary with the condition known as pseudo-cyesis or pseudo-pregnancy.

A. B.—An athletic man, 29 years of age, first came to see me in August, 1928. He had been a medical student at —— Hospital for 10 years, and had qualified in July, 1927. Until October, 1927, his health had been perfect. He had drunk on the average 10 pints of beer daily, and his consumption of spirits had been equally moderate. His mental powers were normal, his difficulty in passing his final examination being, as one so often finds in such cases, due to want of perspicacity on the part of the examiners. His successful result in July, 1927, was at the fourteenth attempt. From July to the middle of September he felt fitter than ever before, and he played tennis every day instead of his former four times a week. As October approached he began to notice a feeling of uneasiness. His appetite diminished, reading of any kind became nauseous and he began to lose weight. These symptoms increased until by October 6th his uneasiness had become a positive terror. He felt impelled to postpone all his engagements and sat huddled before a fire feverishly turning the pages of *A Shorter Anatomy*. This soon produced a deep sleep, which lasted till next morning. When he awoke the terror was, if possible, more pronounced—there was diarrhœa, frequency of micturition and, he says, a powerful urge to board a bus, especially a number 184. He managed to ward off this and sat semi-comatose at his desk all the morning. Later he was found to have written a number and the word "Surgery" on the outside of all the books of his library. At 12.30 the coma passed off, to return at 2. It finally disappeared at 5, leaving an unearthly feeling of relief, bliss, contentment and a desire for celebration.

Until the end of December, 1927, there was no recurrence, but then an exactly similar attack began, culminating on January 6th. The attack was repeated in April and again in July of this year.

The three-monthly periodicity of the attacks suggested a line of treatment, and on October 5th of this year I ordered him 2 firkins of Audit Ale (Dale & Co., Wholesale Druggists, Cambridge). As I anticipated, this had the desired effect and no attack occurred in October or, if it did, he didn't mind.

E. C.-J.

Notice.

GUY'S HOSPITAL DENTAL SCHOOL

MR. J. F. LOCKWOOD has been appointed Student Demonstrator of Dental Histology for the period October–December, 1928.

F. BOCQUET BULL,
Sub-Dean of the Dental School.

Guy's Hospital, S.E.1.
September 29th, 1928.

A Fly in the Theatre—

is killed quickly—

neatly—

easily—

and cheaply—

—by Ethyl Chloride.

The Art of Study: Its Principles and their Application.

By Dr. R. D. Gillespie.

Reprinted from the British Medical Journal, *September 1st*, 1928

STUDY, even of the sciences, is an art. But it is a lowly form of art, being with most of us a means to an end, and not to be pursued for its own sake. It is therefore desirable to make use of whatever general principles may increase our studious efficiency. Naturally, psychology is appealed to as the appropriate body of knowledge from which to derive such principles, and it may be of some interest and practical utility to set forth briefly the experimental and other psychological data whose interpretation may facilitate study. The data are not many; the deductions are neither of great value nor very novel, but they have some intrinsic interest, as well as one or two practical applications.

The problem of efficiency in study can be attacked from two sides—the subject-matter and the mental processes involved. The latter alone can be dealt with here; the interest of the subject-matter depends upon its content and the manner in which it is presented by its professors.

THE MENTAL PROCESS

The mental process involved in study is, strictly speaking, a unitary whole, but several aspects of the process may conveniently be distinguished; these are principally attention, memory and association.

In considering, first, the mental process in its entirety, study may be regarded as a form of "mental work." Experimentally, a "mental work" curve has been obtained from a simple task, like adding figures continuously. There is at first a general, but very irregular, tendency for a rise to occur in the number of figures added per unit of time, followed by a decline in the number added. Several factors are at work in producing such a complex curve. The influence of practice, which is most marked in the beginning, and should lead to a gradual and continuous rise, is soon interfered with by fatigue. The latter is a complex affair, and its particular nature depends largely on the kind of task involved. Probably very little of the fatigue that appears in every mental task is actually mental in origin. In writing down additions, for example, there is the digital muscular fatigue, in reading there is ocular fatigue, and so on. Much also of what masquerades as fatigue is the result of distraction—other objects attract the attention, and the main performance is interfered with. This is well exemplified in the difference in the amount of work done on a task that is of itself interesting, and on one that is merely boring.

Distractions operate much more readily in the latter case and reduce the output, thus simulating the effects of fatigue. But it is possible that a certain minimal amount of distraction is beneficial in increasing the mental output over short periods. For example, persons working an ergometer (against a load of 1 kilogram) with their upper limbs, and adding columns of figures at the same time, were found in some instances to perform more work of each kind (mental and muscular) than when doing either kind alone. An illustration of the comparative indefatigability of mental performance as contrasted with physical performance was furnished by the feat of Dr. Arai, who multiplied pairs of four-place figures (for example, $2{,}738 \times 4{,}912$) continuously for 12 hours without a break. At the end of 12 hours of continuous multiplication she took rather more than twice as long to perform each complete four-figure multiplication as she did at the beginning. Her efficiency was therefore still very high, as "even at the end she was performing a feat which probably could not be equalled by two persons out of a thousand engaged in mathematical work" (Watson). Furthermore, a normal period of sleep completely restored her capacity, the work being repeated on four successive days.

Fluctuations in the rate of improvement in any mental performance takes place in other ways. We may improve for several days at some task, and then fail to make any progress for a time, after which the improvement may be resumed. It is quite likely that subconscious rearrangements have been occurring, which, when they are completed, enable further improvement to take place. "Spurts" also occur, notably at the beginning, when the novelty of the task engages all the mental energy, and at the end, when the prospect of the satisfaction of a completed task is accompanied by increased attention to it—interest being the essential factor in both these instances.

There is another factor called "incitement," or the "warming up" that occurs as the task proceeds. It is as if our mental machinery had a degree of inertia, which can be overcome only

gradually. Hence, the importance of continuity of working and the avoidance of outside interruptions. To be called away to a telephone even for a few minutes causes a greater loss in efficiency than is indicated by the mere loss of time ; the output of work immediately after such an interruption is less than the output immediately before.

On the other hand, it is found to be beneficial if brief " rest pauses " are introduced at considerable intervals during long periods of work. In this way, not only mental work may be made more efficient, but the output of factories has been favourably influenced. In a sweet manufactory, where the working conditions were investigated by the National Institute of Industrial Psychology, an increase in output of 5 per cent. was produced simply by the introduction of a few rest pauses at definite times in the working day. In a well-known group of restaurants, the curve of breakages rose steeply in the late afternoon. By the introduction of a rest pause of about 15 minutes' duration at 3 p.m. the curve was flattened to an almost horizontal line.

It is usually considered that to transfer one's attention to another task, after feeling " fatigued " at a previous one, is efficacious in restoring mental efficiency. " Change of work is as good as a holiday " is an almost proverbial saying, which is in part confirmed and in part controverted by experimental evidence. The so-called " subjective fatigue " (which is another name for boredom) certainly tends to be abolished in this way. There is some statistical mathematical evidence that a person readily bored by prolonged continuous work of one kind is likely to be similarly affected by continuous work of any kind—a conclusion which hardly requires such elaborate proof.

Two kinds of " objective fatigue " have been distinguished—specific and general. Specific objective fatigue, as the name implies, is not transferred from one operation to another—that is, a change in the type of work abolishes it, but in a given individual it is apt to appear specially in a certain type or in certain types of mental work. General objective fatigue—a fatigue which, having been induced by one type of operation, persists after a change has been made to some other kind of work—may account for from 5 to 25 per cent. of the total fatigue ; that is, only 5 to 25 per cent. of the original efficiency cannot be restored by a mere change of occupation (Spearman).

Several general deductions can be made from the experimental results that have been summarised. Mental fatigue is a matter of comparative unimportance. Only a small proportion of it (" general objective fatigue ") is probably attributable to cerebral activity. Even this proportion is readily abolished by a rest pause, or by normal periods of sleep. The greater part of " mental fatigue " is made up of boredom (for which there are obvious remedies) or by the so-called " specific objective fatigue," which is surmounted by changing over to another type of mental activity—for example, so simple a change as from the multiplication to the cancellation of numbers. Clinical experience bears out these experimental findings. " Mental exhaustion," " brain strain " from " overwork," and the like can be safely discarded as a hypothesis in 999 out of 1,000 cases. The apparent mental incapacity in such cases is nearly always the result, not of intellectual effort, but of anxiety or a kindred emotional disturbance, resulting from preoccupation with some personal problem. This is brought home very dramatically in the sudden recovery of persons complaining of " brain-fag," which has perhaps limited their work to periods of less than an hour each, when a source of worry is removed. For practical purposes the mind is almost tireless. On the other hand, violent physical exercise disables a person from concentrated mental work for some time afterwards. Even when there is considerable deprivation of sleep, intellectual accomplishment may be persistently maintained at a high level if the worker does not worry about his insomnia.

Another and a very obvious deduction from the experimental work is the desirability of arranging work in such a way that it can be carried on without interruption for several hours at a time if need be. The incursion of friends or members of the family into the room must be discouraged. " Warming up " can then occur to the full. Much the most difficult part of any study is the beginning of it. At the same time, a judicious arrangement of " rest pauses " (which need only be very brief) increases the total mental output. The loss of " incitement " with such short pauses is not great. The distribution and length of the pauses has to be worked out empirically by each individual for the type of work that he does. Rest periods are only of value where the preceding work has been really concentrated. The introduction of rest periods into a period of work from which the mind has been continuously distracted merely aggravates instead of improving the mental efficiency. One entire day free of study in the week is a valuable aid to continued freshness ; it is, in fact, wisely regarded as obligatory.

MEMORY AND ATTENTION

So much for the total mental process. We may now turn to some of its aspects. Memory is one of the most important aspects of the mental process involved in study. There are three distinguishable stages in memory—namely, the im-

pression of an experience on the mind, its retention there, and its recall when wanted. It is convenient to consider these separately and to examine their conditions.

A very important factor in the impression or registration of an experience is the nature of the subject-matter (its lucidity, etc.), but our present concern is with the most efficient mental attitude. It is well known that the clearness of our impressions depends largely on our attention to the objects producing them. The field or range of attention can be regarded as having a focus or central "area" and a margin. Objects in the focus of attention are more clearly perceived than objects in the fringe or "marginal" field of attention. This fact is very well established. Nevertheless, it is interesting to know that objects in the fringe or margin of attention are sometimes much more distinctly and firmly impressed than at first seems credible. Thus, Dr. Morton Prince's subject, B. C. A., looked into a crystal (a method of bringing focal attention to bear on experiences originally in the "fringe"),

"and saw there some printed words which had no meaning for her whatever and awakened no memory of any previous experience. It was afterwards found that the words represented a cablegram message which she unconsciously overhead while it was being transmitted over the telephone to the telegraph office by my secretary in the next room. She had no recollection of having heard the words, as she was absorbed in reading a book at the time. The correctness of the visual reproduction is shown, not only by the automatic writing (another method of recalling marginal impressions), which remembered and recorded the whole experience, but also by comparison with the original cablegram."

For ordinary purposes, however, the majority of us cannot rely on anything but focal attention. Ability to attend persistently seems to be directly proportioned to the degree of intelligence possessed by the person attending. Extreme instability of attention is a symptom in mentally defective persons. By experiment it is found that a lapse of attention, usually unnoticed, occurs in normal persons every few seconds. For example, if a watch be placed just within hearing, it is found to become alternately audible and inaudible. Fatigue and alcohol increase, while bromide is said to diminish, the depth and duration of these lapses. Any toxæmia besides alcohol, and organic brain disease, have a similar effect in producing frequent and prolonged lapses of attention. This increased fluctuation of attention, or "mental-tension defect," is a useful diagnostic sign. It helps also to account for the greater difficulty in studying experienced after a meal with which alcohol has been taken.

Useful attention—that is, attention to the task in hand—is disturbed more often by preoccupation with other interests than by any other cause. "Single-mindedness" is essential for efficient work of any kind, and certainly not least in studious occupations. Where persons (not suffering from organic brain disease and demonstrable toxæmia) complain that their concentration is very bad, it is usually safe to reply that, on the contrary, it is very good, but it is directed faultily towards some personal source of worry.

The second, and more exclusively memorial, aspect of memory process is the retention of an impression on the mind. James considers retentivity to be immensely important.

"The persistence or permanence," of impressions, "is a physiological property of the brain tissue of the individual, whilst their number is altogether due to the facts of his mental experience. Let the quality of permanence . . . be called . . . 'physiological retentiveness.' This tenacity differs enormously from infancy to old age, and from one person to another. Some minds are like wax under a seal—no impression, however disconnected, is wiped out. Others, like a jelly, vibrate to every touch, but under usual conditions retain no permanent mark. Those latter minds, before they can recollect a fact, must weave it into their permanent stores of knowledge. They have no *desultory* memory. Those persons, on the contrary, who retain names, dates and addresses, anecdotes, gossip, poetry, quotations, and all sorts of miscellaneous facts without an effort have desultory memory in a high degree. No one was probably ever effective on a voluminous scale without a high degree of this physiological retentiveness. In the practical as in the theoretic life, the man whose acquisitions *stick* is the man who is always achieving and advancing, whilst his neighbours, spending most of their time in relearning what they once knew but have forgotten, simply hold their own. A Charlemagne, a Luther, a Leibnitz, a Walter Scott, any example, in short, of your quarto or folio editions of mankind, must needs have an amazing retentiveness of this purely physiological sort. Not that mere tenacity will make a man great. It must be coupled with great passions and great intellect besides."

Imbeciles sometimes have an extraordinary, and extraordinarily limited, memory. Forbes Winslow (quoted by Tregold) mentioned the case of a man who "could remember the day when every person had been buried in the parish for 55 years, and could repeat with unvarying accuracy the name and age of the deceased and the mourners at the funeral. But he was a complete fool. Out of the line of burials he had not one idea, could not give an intelligible reply to a single question, nor be trusted to feed himself."

Mere memory, then, in the sense of physiological retentiveness, is not enough. To have it in high degree is a great asset, but unless its stores are utilisable in an intelligent way, a phenomenal memory is of little help and may even be a hindrance. It is, nevertheless, natural to inquire whether this retentiveness can be improved in any way. James holds that it cannot, McDougall

thinks that he has proved that it can be improved by repeated exercise, but the improvement he claims is slight at the best.

Experiments on the power of retention in normal individuals yield some interesting results. The experiments have principally been performed with series of nonsense syllables (that is, syllables like " rel," " tes," " bup "), because this is the simplest material for testing pure retention, and the least likely to be complicated by other functions, such as associations of ideas. If a series of, say, 16 such syllables has been completely learned, " curve of forgetting " is obtained. Two things can be observed from such a curve : that it falls off at first very rapidly and then much more slowly, so that nearly 50 per cent. of what has been learned is lost in the first hour, but only a further 16 per cent. at the end of the day and a further 14 per cent. (80 per cent. in all) at the end of a month.

Evidently, therefore, so far as this experiment goes, what we have learnt within the last few hours benefits us little more than what we learnt 24 hours or even many days ago. Superimposing two curves, one 24 hours older than the other, we obtain a comparatively slight difference in the quantity retained after 24 hours. Hence, it would appear that the last night's cram before an examination is of little benefit. Unless for the acquisition of entirely new material, we lose comparatively slightly by abstaining from all work in the last few days before an examination, and probably gain considerably in that elusive quality called " freshness."

SUBCONSCIOUS ELABORATION

Mental freshness as opposed to " staleness " is probably dependent on several factors. One of these is " retro-active inhibition " ; it has been found by experiment that if two tasks are learned in quick succession the acquisition of the second to some extent impairs the memory of the first. Another factor in " freshness " may depend on this : there is probably involved, in the learning of any task, a process of subconscious elaboration, which occurs more readily in the intervals of freedom from intensive conscious mental work. This subconscious elaboration is evident in dreams. Coleridge is said to have written *Kubla Khan* from the memory of a dream he had while sleeping under the influence of opium. He had been reading a passage about the palace of Kubla Khan from Purchas's *Pilgrimage* just before he fell asleep, and he wrote down all he could remember of his dream immediately on waking. Usually, however, where composition occurs in dreams, and seems to the dreamer to be of superior quality, he finds that what seemed so wonderful in the dream is commonplace, or even meaningless, on waking. Graham Wallas, in his book *The Art of Thought*, records that a relative of his woke one morning with the conviction that she had achieved immortality by the lines :—

> " Leave then thy steed
> And let it feed
> On more than meets the eye."

On subconscious elaboration seems to depend also the not uncommon experience that a problem—say, a geometrical rider—which has puzzled a person for hours of an evening, may very rapidly be solved with but little more effort on waking the next morning. Similarly, some hysterical persons have the reputation of showing much better arithmetical ability in their dissociated state than in their ordinary waking condition. In composing a dissertation on some subject, especially if it is of a theoretical kind, a similar process occurs. One reads up all the relevant literature, which is necessarily come by in a disconnected way, but when one proceeds to write down the impressions gained from it, and to incorporate them in whatever view one has of the subject, the dissertation seems largely to write itself ; the views of others fall relevantly into place in a natural fashion, suitable collocations often occurring in a way certainly not realised before the actual writing was begun.

Instances of a more fruitful kind of subconscious elaboration have frequently been related by men of the rank of genius. It was de Maupassant, I think, who said, " *Ce n'est pas moi qui pense : ce sont mes idees qui pensent pour moi.*" Helmholtz, speaking of his methods of thought, said that, after preliminary investigation of a problem, " happy ideas come unexpectedly, without effort, like an inspiration. So far as I am concerned, they have never come to me when my mind was fatigued or when I was at my working table. . . . They came particularly readily during the slow ascent of wooded hills on a sunny day."

Wallas divides the process of elaboration of new ideas into four phases. " The first of these is Preparation, the stage during which the problem was investigated in all directions ; the second is the stage, during which Helmholtz was not consciously thinking about the problem, which I shall call Incubation ; the third, consisting of the appearance of the ' happy idea ' together with the psychological events which immediately preceded and accompanied that appearance, I shall call Illumination." The fourth stage is that of Verification, in which " the validity of the idea is tested and the idea itself reduced to exact form."

It is clear that if these methods of geniuses hold also for lesser men, periods of freedom from conscious mental work are more than justified.

Psychologists have recently argued against this view, which was dramatically overstated in the pronouncement, "We learn to skate in summer and to swim in winter." But most of us have noticed that our best ideas, poor things as they may be, often come to us while we are shaving, or in our bath, or engaged on some other desultory activity involving no mental effort. The philosopher Hobbes kept a little notebook where at any hour of the day he would enter the thoughts that "dart" into the mind from the "fringe" of consciousness. Graham Wallas recommends that "anyone who is living a life of intellectual production will do well to keep, as Darwin did, a rather considerable number of 'folders' or envelopes, labelled with the names of subjects to which he finds his mind recurring, even although he may not immediately contemplate writing, or lecturing, or acting on them." In corollary also the danger from another aspect of too much and too continuous reading has to be remembered: such habits of reading teach us not to think for ourselves, but to expect our ideas always to be spoon-fed into us. Independent observation and, wherever it is practicable, experiment to "find out the secrets of Nature," are the best correctives.

MEMORY AND ASSOCIATION

To return to nonsense syllables, it is dangerous to argue from the learning of these to the learning of sensible material such as comprises any connected body of knowledge. Into the acquisition in memory of the latter much more enters than mere "physiological retentiveness" whereas the learning of the former implies merely the formation of motor habits. A poem or piece of prose is much more completely and easily remembered, as everyone knows, than a series of disconnected words. Nonsense material committed to memory has been found to have disappeared completely at the end of four months; whereas verse will persist for years. An old man, with such senile cortical deterioration as causes him to forget completely what occurs from day to day, will recollect whole series of verses which he committed to memory 60 years before. Frequently one sees advertisements of methods of improving the memory. Even if it be admitted that innate retentiveness, in James's sense, can be increased, which is doubtful, the principal improvement in memory must depend on the multiplication of associations; and most of the advertised tonics for invigorating a feeble memory utilise this fact. Ingenious methods, such as the formation of mnemonics or the invention of "figure alphabets," in which each numerical digit corresponds to a letter, are typical of the schemes recommended. James mentions a system advocated by E. Pick in 1888, which consisted in linking together any two ideas by means of an intermediate idea. Such "ingenious methods" occupy more time than they are usually worth.

The number of associations that a new body of information forms for itself depends upon the number and kind of previous acquisitions. One of the most important—probably the most important—factor in a good memory, especially in the sense of a serviceable memory (and not of mere mechanical registration and reproduction), is the multiplication and verification of the connections of our experience. To take a very simple example: in preparing for an important examination it is unwise to use only one text book. Some text book or other should be made the mainstay, but reference to another, even by borrowing it from time to time, will present new view points, or at least will present things in a somewhat different order, in such a way that new associations will be formed for the material gleaned from the staple volume. Still more important is it to talk about the subject in as many of its bearings as one's fellow students can be prevailed upon to discuss (which may not be many). "If a man confer little," says Bacon, "he had need have a present wit." Attendance at lectures has a similar justification. If the lectures are expositions of a subject, and not mere essays read aloud in public, they stimulate associations in the same way. In these days of cheap and well-made books this is one of the few remaining justifications for the survival of systematic lectures.

In merely learning anything by heart, certain devices are of value. The grouping of the material to be learned into intelligible unities naturally occurs to everyone. The presence of rhythm makes learning easier; for example, poetry is easier to learn by heart than prose. This is presumably related to the fact that every mental and bodily activity tends to be rhythmical. It has also been found experimentally that if a poem of several verses has to be memorised, it is more economical and effective in the long run to learn it as a whole, rather than stanza by stanza.

Interest is naturally also of vast importance. We remember best what interests us most; although the retention of what has not appeared to interest us at the time, but has remained in the "marginal field," is sometimes remarkable, as we have seen. Interest reduces, also, the effort both of attention and remembering, and it increases the powers of observation as well. It is a frequent occurrence that when a name or a word which we do not seem to have encountered

before comes to our notice, and which interests us by its very unfamiliarity, it crops up repeatedly in our experience in the next few weeks. On a similar focusing of interest depends the common "fallacy of the positive instance." Interest leads also to selection. Under the influence of interest we select—often without realising it—what we wish to remember. But everything should not be left to this more or less instinctive selection. There is with some people too much slavish routine reading, too much of ploughing through masses of more or less unnecessary and irrelevant texts, omitting nothing, lest anything be missed, as some people read every page even of the inferior works of fiction produced by a good author. "Some books are to be read only in parts; others to be read, but not curiously; and some few to be read wholly, and with diligence and attention." Closely related to interest and attention is the general attitude of the student. Too many men sit down to a book or a problem without troubling to form a general notion of what they expect to get out of it.

It has been held by some that every experience is retained—everything seen or heard or done in our life up to date—that nothing is ever completely forgotten. There is no evidence for this statement, and it would be very awkward if it were true. "A good memory for forgetting" sounds like a contradiction in terms; but consider what would happen if we did not, for all practical purposes at least, forget much of our experience. Otherwise, in recalling some event we would laboriously resuscitate every smallest detail that had ever happened contemporaneously with it; and its recollection would occupy nearly as much time perhaps as the event itself. In this way we would never be done, and could hardly have time available, for registering new impressions from the intruding complex burden of the old. How much, for example, of the events of our earlier years do we seem to remember? The first 10 years of our lives we could perhaps dismiss in as many minutes, having recollected all we can of them. Nevertheless, although our memory is not of everything we ever experienced, modern psycho-pathological research has shown it to be much greater than was formerly suspected.

Memory, then, so far from being all-inclusive, is selective. The best memory is possessed, as we have said, by the man who makes the greatest number of associations with his experience; but the most effective memory is a combination of associative richness with selection. The organisation of memory in accordance with one's prevailing interests is the most effective organisation. The man who thinks about his experience has much the better memory. This, by the way, marks the point of distinction between crammed information and real knowledge of a subject. In cramming one does not think—few associations are formed; real knowledge involves organised associations formed under the influence of continued interest.

Much better than a slavish devotion to the minutiæ of one subject is a study, less minute, but more comprehensive, of several. It is salutary, for example, and gives balance to one's judgment if physics and biology are studied concurrently. In a narrower field anatomy and physiology are not different subjects; they are complementary aspects of the same. It has frequently happened that outstanding contributions to one science have been made by men trained in some other; they have, in consequence, approached problems from a new and fruitful aspect. For example, physicists have contributed much to astronomy, chemists to physiology and mathematicians to everything. It is interesting to find how many of the men who have done exceptional work in one branch of medical science have begun their medical work in some other, often only distantly related. The absence of a narrow specialism has been until recently (and still is, to some extent), one of the glories of medicine in this country. "For expert men can execute, and perhaps judge of particulars, one by one; but the general councils, and the plots and marshalling of affairs, come best from those that are learned in many fields." Fertility of invention arises largely from the interplay of associations; diversity of interests (provided that intensity of interest does not suffer) facilitates such interplay.

HABITS OF WORK

Associations can be multiplied not only between cognate fields of knowledge, but within each field itself. Some of these methods have been mentioned above; for example, by discussion and debate, and by reading different books in the same field. There is another method which is among the most efficacious, and that is to write about the subject. To quote again the inexhaustible Bacon, "Reading maketh a full man, conference a ready man and writing an exact man. And, therefore, if a man write little he had need have a great memory." It is not, however, merely that writing about a subject improves the memory of it; still more it improves the clearness of a subject in the mind. Writers of monographs and text books not infrequently acknowledge that the persons to whom the writing has been most beneficial are the authors themselves. Lord Kelvin is reported to have said that he did not feel that he fully understood anything until he had made a working model of it. Most of us cannot, without disproportionate labour, make a working model of a

problem in carbohydrate metabolism, or even of a murmurous heart; but to be able to write a coherent and lucid description of such things is a great advance on merely having memorised some text book account of them. It is not possible to perform this service for every topic while preparing for an examination, but how seldom is it done even for the most difficult. One of the most valuable of such exercises is the writing of "papers," especially papers on some piece of "original" work (it need not be very original), and not merely critical summaries of literature. The latter, however, can also be very useful in this way, for the reading of original articles in the medical press and the constructive summarising thereafter of a number of articles on kindred topics is a pleasant and often very stimulating variant to poring over text books. It also has the advantage of "mobilising" one's knowledge. Original work, being less cut and dried and dogmatic than text books, leads to questioning and to an open mind. The air of authority, too, is less overwhelming in them than in standard books, the constant perusal of which, if unvaried by occasional resort to originals, tends to stifle intelligence. The first few years after graduation have often to be spent by the young medical man in ridding himself of the unquestioning faith in authority and the printed word that he has acquired during his student days, and of the parrot-like habits of memorising, rather than understanding, a subject which, in defiance of the methods recommended above, many men adopt in their work for examinations. It is a good thing that the student should regularly read—in selective fashion, of course—one of the current general medical periodicals, together with occasional numbers of the more specialised journals, dealing with any subject to which he happens to be specially attracted.

Finally, method, in the sense of orderliness, is a great asset, not only in the acquirement of learning, but in its serviceableness afterwards; and so long as it does not become a fetish, it betokens an orderly mind. The methods adopted must vary with the individual, and with the nature of the subject which he is endeavouring to master. Some lay stress on regularity of working habits; it is a good thing, for example, to have a prescribed routine of beginning work at certain hours and working for a certain period of time. A habit can be thereby established which, like every habit, has a certain dynamic effect of its own. Moreover, habit facilitates the "slow dead heave of the will" that overcomes the inertia existing in the most willing people at the beginning of any task, and which is probably a property of mind itself, and even that other inertia which is present in the rest of us, and is a thing of the spirit.

I have to thank Dr. Shepherd Dawson, Dr. C. P. Blacker and Professor T. B. Johnston for valuable suggestions.

Reviews.

Aids to Ophthalmology. By N. Bishop Harman, M.A., M.B., F.R.C.S. 7th Edition. Published by Messrs. Baillière, Tindall & Cox. *Price* 3*s.* 6*d. net.*

THIS book is all that an *Aids* should be, both for ophthalmic dressers and for revision. The section on diseases of the eye is good, particularly the chapters dealing with such common conditions as conjunctivitis and corneal ulcers, while iritis and glaucoma receive fair mention without lending support to the popular idea that these are the only two important eye lesions. Just sufficient of the theory of optics is given to clear away the mysteries of ophthalmoscopy and retinoscopy without being tedious, and the chapters dealing with refraction are perhaps the best part of the book—they should be very helpful with early struggles in the dark room. Squints are well dealt with, there is a chapter on ophthalmic operations and the book ends with questions which will humilitate many.

Radiology of the Chest. By Walker Overend, M.D. Vol. 2. 1st Edition. Published by Messrs. Heinemann. *Price* 21*s. net.*

THIS book is an attempt to combine clinical observation of cases with the radiological findings. The late author was well equipped for the work, since he was a physician at the Prince of Wales's Hospital, Tottenham, before he decided to take up radiology. The task undertaken has not been uniformly successful, and the book seems to have fallen between two stools, since although there is undoubtedly a mine of information and observation founded on great experience, it is presented in such a way that it needs both time and patience to explore and utilise it.

The letterpress is not helped by the arrangement of the 124 radiograms which illustrate the book, since they are all collected at the end of the book, and the reader is forced to turn to them repeatedly, an operation which does not help to

preserve the continuity of his appreciation of the author's train of thought.

The radiograms themselves are excellent, in so far as the size of their reproduction will permit them to be, but the publishers' parsimony, in condensing the shadow of a shadow to a compass of $2\frac{1}{2}$ inches or so square, does not do justice to X-ray pictures of the chest and reduces them to a somewhat monotonous obscurity. However, that is not the fault of the author and in view of the lifetime of experience contained in the covers of the book, the careful recording of actual cases and the references to a wide survey of the literature on the subject, it is a pity that he was not better served by his illustrations.

Persumably this fact is due to the great cost of adequate reproduction, but cheese paring in this matter is more expensive in the end.

Sport.

Rugby.

Guy's *v.* Coventry.

PLAYED at Coventry on Saturday, September 29th. Following their promising display against Catford Bridge, the Hospital XV were fully expected to give Coventry a close game, but although the game was exciting enough, we had to admit defeat by 2 penalty goals and 2 tries (12 points) to 1 penalty goal (3 points).

After such convincing victories over Cardiff, Swansea and Bridgend, it was realised that Coventry must be one of the most improved sides in the country. They certainly upheld this reputation and kept the Hospital XV extended throughout. It was a splendid game from start to finish, full of thrills and played in the spirit which is always associated with these two sides whenever they meet.

We were very pleased to see V. G. Boyle and S. P. Meacock, two old Guy's men, who have now settled in practice at Coventry. S. P. Meacock, who officiated as touch-judge for Guy's, will be remembered as the late secretary of the Rugby Club, whilst V. G. Boyle, a former Guy's full back, was included in the Coventry side at full back. Against his old club Boyle gave a perfect exhibition of full back play, kicking with excellent judgment and tackling fearlessly.

Compared with the side which was so successful against Catford, Guy's made three changes—W. D. G. Jones took the place of F. H. B. Spence, who had a damaged shoulder, J. Howell, from Pembroke College, Cambridge, was introduced at scrum half, whilst Louis Brown filled the vacancy in the pack caused by the absence of Tregarthen, who was sitting for his Final.

When Guy's took the field they received a splendid reception from the 8,000 supporters of Coventry who turned up to see the match. The first half was evenly contested and a penalty goal, taken by Middleton, was the only score, which gave the home side the lead before the interval. In the second half Coventry were distinctly the better side, and were rewarded in their efforts by two further penalty goals, whilst Guy's could only respond with a penalty goal, beautifully taken by Hogbin from a difficult angle near the half-way line. Near the end Coventry increased their lead by scoring two excellent tries, the first being the culmination of a forward rush in which Coulson, who played a conspicuous game throughout, picked up and, passing to Mayo on the goal line, enabled the latter to touch down immediately. The second was a brilliant individual effort by Mayo who, receiving the ball in mid-field, ran very strongly at an angle, and after deceiving our backs feinted to pass to his wing. He was left with a clear run in to score a clever try.

The packs were evenly matched and the Guy's forwards deserve praise for the way they stood up to the onslaughts of the Coventry octette—on several occasions they repelled rushes when heavily pressed on their goal line.

At half back, Howell was not at all happy, and perhaps the close attention of Gascoigne and Lole prevented him from getting the ball to his partner. Our threes could not get going at all, and when the ball did come their way they were too prone to kick instead of opening up the game. Towards the end they realised their mistake, and some excellent rounds of passing were seen in which Ryan and Windsor Lewis took a prominent part. Unfortunately, it was then too late to make up the deficit.

Coventry fully deserved their win—they have a very fine combination of young players who never give up trying until the final whistle. On the other hand, the tackling and counter-rushes of the Hospital XV were first class until they tired in the closing stages.

Guy's Team—J. C. Hutchinson; A. J. D. Lewis, W. D. G. Jones, D. F. Ryan, T. G. Robinson; Windsor Lewis, J. Howell; J. R. F. Popplewell, W. H. Myburgh, R. A. P. Hogbin, T. Morgan, G. F. Lashmore, A. R. Clarke, D. S. Clogg, L. Brown.

Guy's *v.* United Services (Portsmouth).

FOR their home match against the Services, Guy's made three changes from the side which did duty at Coventry—Eustace re-appeared at scrum half, whilst F. H. B. Spence and J. C. T. Tregarthen resumed their places in the back division and pack respectively. We were still without P. D. B. Spence and John Durr, who have yet to make their first appearance of the season. It was a perfect day and the ground was in excellent condition.

A well contested game was fought at a terrific pace from start to finish. For the major part of the first half the Services were one short in the pack, and during this period our forwards heeled the ball regularly and gave our backs plenty of opportunities. In spite of repeated efforts, which were nullified by close marking and sure tackling of the Services, our threes could make little or no headway, and the only score of the first half was the result of a forward rush, in which Clarke figured prominently. Morgan receiving a pass near the goal line the latter was enabled to score the Hospitals' only points.

After the interval Guy's were heavily pressed and eventually had to admit defeat by 1 goal and 2 tries (11 points) to 1 try (3 points).

From the kick-off Guy's attacked and, following a mark by Windsor Lewis, the Services were soon defending their line. A penalty against the Hospital brought relief, and by short forward rushes play was carried to our 25. Offside sent the Services back and our threes passed the ball along the whole line, but little progress was made. The light ball proved very difficult to handle and throughout the game many passes were missed. The Services again attacked, but two penalties for offside sent the sailors back to their 25. Eventually our forwards exerted heavy pressure; Clarke seized the opportunity to break through and pass to Morgan to score easily, Hogbin failing to add the extra points.

Immediately on resuming the Services attacked and, after a mark by Maxwell, Sladen broke through our defence, only to drop the ball when tackled by our full back near the goal line. In the excitement of the scrum that followed, the Services were penalised for picking out of the scrum, and so temporary relief was brought at a critical moment.

Our visitors' threes were soon in action again and, following good passing by Wood and Maxwell, Hutchinson mistimed a high punt, and Campbell following up at top speed made the scores level with a good try.

Hogbin made a good effort to score a penalty goal from 50 yards range and only missed by a few feet. After Windsor Lewis had found touch with a splendid kick our threes got going, but A. J. D. Lewis missed the final pass from Spence. Another passing bout between our backs was cleverly intercepted by Freeman and, giving to Maxwell, the latter scored easily, for Brown to convert.

Very soon afterwards the Services again pressed and after a fine round of passing between Slade, Freeman and Forbes, the latter hurled himself over in the corner for a try, which was not converted.

After this reverse Guy's took up the attack and, following a good kick by Ryan, Lashmore broke through, and was only brought down on the line.

During the closing stages Windsor Lewis injured his leg and had to retire; although closely marked he made many excellent attempts to break through. His kicking was excellent.

Of the forwards, Hogbin, Morgan and Clarke showed up very well.

Guy's Team—J. C. Hutchinson; T. G. Robinson, D. F. Ryan, F. H. B. Spence, A. J. D. Lewis; R. J. Eustace, Windsor H. Lewis; J. R. F. Popplewell, W. H. Myburgh, D. S. Clogg, R. A. P. Hogbin, T. Morgan, G. F. Lashmore, J. C. T. Tregarthen, A. R. Clarke.

Association Football Club.

Guy's *v.* Old Carthusians.

THE Old Carthusians were visitors to Honor Oak Park on Saturday, October 13th. The ground was softer than it had been before this season, but this did not prevent the game from being very fast.

From the start the Old Boys attacked very strongly, and for some time kept up the pressure on Guy's goal. After the first 10 minutes play was more even, yet both sides failed to make the most of favourable opportunities. About half way through the first half the ball was sent into Guy's goal mouth and as Evans rushed to reach it the ball hit one of the forwards on the knee and rolled into the empty goal. Just before half time Sharp equalised with a low shot in the corner.

The second half started with a rush, and for the first 15 minutes the Old Carthusians had matters mostly their own way. In this time they scored three more goals. However, after this Guy's improved, and play became more level. Towards the end of the game Guy's scored another

goal. Sharp received the ball near the centre of the field and, after making some ground, sent a beautiful long pass to Small, who took the ball on and scored with a cross shot.

Following this Guy's pressed hard, but could score no more, and a very enjoyable game ended in a win for the Old Carthusians by 4–2.

Guy's Team—E. Evans; Smallshaw, Wright; Cantor, Stubbs, Blaikley; Fitzgerald, Sharp, Ashling, Scanlon, Small.

Guy's *v.* R. M. A.

ON Wednesday, October 10th, Guy's were entertained by the R.M.A. at Woolwich. After a very enjoyable game Guy's ran out winners by four clear goals.

The game opened very evenly with both sides attacking. The Academy's defence was superior to their attack, and it was not until a few minutes before the interval that Guy's opened the scoring. Ashling received a pass from the right and, cleverly beating the half back, passed to Wood who, from a difficult position, scored with a fast cross shot. After this the Academy's forwards played up a little better, and Evans in goal did well in preventing a score on several occasions.

The second half opened with Guy's doing most of the attacking. The forwards seemed to combine much better, and there was better connection between the backs and the forwards. Further goals were scored by Sharp, Ashling and Wood.

Guy's Team—E. Evans; Ellis, Brummitt; Cantor, Stubbs, Blaikley; Mailer, Sharp, Ashling, Wood, Small.

Previous Results

October 6th, 1st XI, *v.* Old Citizens, lost 0–2.

October 6th, 2nd XI, *v.* Old Finchleians "A," lost 2–6.

Hospital Information, etc.

Pass List.

L.D.S.

PART I

Dental Mechanics

C. G. W. Brown
J. Bunyan
H. M. Crombie
J. C. Dominick
F. J. Goldsworthy
C. W. Harrison
H. G. Jokelson
J. A. Sidebottom
R. A. Sykes
A. E. Williamson
G. R. Wootton
S. C. S. Brown
H. D. Cockram
G. M. Davies
J. H. R. Gaffney
C. V. Harries
C. H. Hole
T. D. Popplewell
N. G. Straschun
K. W. Whitworth
D. S. Wilson

PART II

Dental Metallurgy

E. L. Clark
R. L. Etheridge
A. T. Gibb
C. W. Holmden
S. J. Knott
W. L. Mountain
L. H. G. Cummings
K. C. Gebbie
L. P. Harte
T. Ireland
G. S. Loader
R. H. G. Neave
G. E. Paxon
D. J. Wandless
J. G. van Schalkwijk
W. J. Wheatley

PART III(*a*)

Anatomy and Physiology

R. W. F. Brotherton
F. W. Clare
K. C. Gebbie
R. J. G. Grewcock
J. T. Holford
F. J. Mardon
L. H. Smith
R. W. Tuck
F. R. M. Willis
G. B. Brummitt
J. C. Dominick
D. W. Goodman
R. N. Hines
A. W. Holman
L. R. Millership
H. B. Thornton
E. V. B. Widdowson
G. R. Wootton

PART III(*b*)

Dental Anatomy Physiology

W. D. P. Evans
A. J. D. Gibbings
C. A. Palk
E. K. Uren
A. H. Fuller
H. R. Heathcote
R. W. Stevens

SOCIETY OF APOTHECARIES

PRIMARY EXAMINATION

October, 1928

W. Hertzog

CONJOINT BOARD.
FINAL EXAMINATION
Medicine

*H. M. Sein (name omitted from list previously published).

* Has now completed examination.

Papers by Guy's Men.

Arthur F. Hurst, F.R.C.P., and Prof. M. J. Stewart), F.R.C.P. Jejunal and Gastro-Jejunal Ulcers—(1), Ætiology and Pathology, *Lancet*, 1928, ii 742.

Change of Address.

Edith Hope, M.R.C.S., L.R.C.P., D.M.R.E., 50, Wimpole Street, W.1. 'Phone: Mayfair 5824.

H. F. J. Willis, L.D.S., R.C.S., 282, Norwich Road, Ipswich.

R. D. Gillespie, 25, Upper Wimpole Street, W.1. Phone: Mayfair 1627.

Major G. T. Thomson, I.M.S., Sherwood House, Sherwood Street, Piccadilly, W.1.

D. H. Couch, 56, Queens Road, Coventry.

Appointment.

Edith Hope, M.R.C.S., L.R.C.P., D.M.R.E., Asst. Radiologist, Royal Northern Hospital; Radiologist, Ear, Nose and Throat Hospital, Golden Square; Radiologist, Southwark Hospital.

Death.

EMMET—On October 7th, 1928, of J. W. Emmet, M.R.C.S., L.R.C.P., at Spurbane, Summerdown Road, Eastbourne.

Speciality.

H. E. CURTIS & SON, LTD.,
7, Mandeville Place, London, W.1.

IT is now 18 years since the Curtis Abdominal Support was elaborated at Guy's by its makers, after months of patient effort to put into practical form one of Sir Arbuthnot Lane's ideas. It differs in principle from all other abdominal belts in that it supplies a positive anterior-posterior pressure with that slight upward thrust needed to support the viscera effectively. The range of possible pressures is infinite and determined, not as in other belts by limitations of design, but solely by the prescription of the medical man.

It is justly claimed that the resilient elastic pressure which it exerts on the abdominal muscles does not cause atrophy from disuse or interference with blood supply, but leads to steady improvement in power by protecting them from the repeated over-stretching which they commonly sustain in those who stand about much or are already victims of visceroptosis.

SOLUTIONS TO SKIAGRAPHIC "SNAGS"

A—Shows Pirie's ossicle, which is described as a dorsal astragalo-scaphoid ossicle. This is a comparatively rare abnormality. As far as is known, the ossicle has no function.

B—Shows the presence of an os trigonum, which is the lateral tubercle of the posterior process of the talus, which has ossified from an independent centre and remained separate from the rest of the bone. This is a considerably less rare abnormality than *A*, but should be borne in mind in diagnosing crushed fractures of the talus.

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PASSIM

TO put on a bold front and incidentally a tail suit as a preliminary to making a clean breast of serious financial difficulty may seem unusual, but is apparently quite an effective way of dealing with such situations. On another page will be found a full account of the Festival Dinner held at the Mansion House, on Tuesday, October 23rd, which coincided with the inauguration of the Endowment Appeal mentioned in a previous number. We feel that the Lord Mayor's speech on this occasion displayed a splendid grasp of the situation, not only as it affects Guy's, but in the wider involvement of the entire system of voluntary hospitals whose steadily increasing financial instability gives great cause for alarm. Rising maintenance costs have everywhere played such havoc among incomes that are still on a pre-war scale, while the steady progress of medical science has involved such a continual expenditure on absolutely necessary improvements, as to result in a constant competitive clamour of charitable appeal that must almost deafen the wealthy recipient and render him at a complete loss to decide where to place his support among the multitude of urgent calls upon his willing purse.

Further, repeated exploitation of a sensational press, resort to such means as the rolling stone or the lure of the lottery, and appeals to the common bond of sportsmanship or even the possession of a healthy thirst, have perhaps so cheapened the cause that many people have come to regard a shifting of entire responsibility to the State as the only solution to the blatantly mendicant chorus that chokes their post and now quivers at them every Sunday from the ether. It is, we hope, in such cases that the sincerity and frankness of the Lord Mayor's statement of an individual financial position, supported by the straightforward declaration by H.R.H. The Duke of York, of intense enthusiasm for a tried and honoured system may hope to carry most weight. The substantial result of the appeal to date seems to bear out this impression to the full.

While in some quarters the imminent municipalisation of the Poor Law institutions is regarded as the thin edge of the State Hospital wedge, and in others the paying ward is held to be the required restorative, we are unable to believe that the nation can yet afford to dispense with the enormous amount of gratuitous service so freely given under the present system, alike by the medical profession and the various governing boards. In the case of a vast majority we are sure that the purely voluntary nature of such service is not fully realised, while Guy's in particular is regarded as well endowed and not in urgent need. A campaign designed to dispel such ignorance, together with better co-operation among the various appeals, should do a great deal to ease the position and lead to that trifling balance of income over expenditure which Mr. Micawber declared to mean so great a happiness all round.

TALKING of appeals, we hear that King's College, who celebrate this year the Centenary of their foundation, are issuing one for £350,000 to enlarge the College and provide a much-needed endowment. While obviously more closely concerned with our own efforts, we, nevertheless, should like to wish every success to the King's appeal, as we appreciate the great value of the work done there in the Arts and the Sciences, and the money required to maintain this high standard.

THE modesty of accomplished men is evidenced by the silence so far accorded to yet another distinction gained by a famous Guy's man. In July last Dr. G. W. de P. Nicholson was made Professor of Morbid Anatomy in the University of London in respect of his work here at Guy's. And yet so quietly and with such little fuss was this distinction achieved that even the eagle eye of the GAZETTE failed to focus it. So, in all humbleness, we have very great pleasure in making this announcement, belated though it may seem.

WE note that an old Guy's man, Mr. C. H Marshall, F.R.C.S.Edin., now in charge of the European Government Hospital at Kampala, East Africa, was included as surgical specialist among the members of the special relief party organised at Entebbe on receipt of the urgent message from

the Prince of Wales's hunting party at Murchison Falls. In order to reach Brigadier-General Trotter, who lay seriously ill on the Lugard, the relief party made an all night drive from Kampala to Butiaba, a distance of 154 miles, which they covered in the short space of six hours, fortunately finding their patient out of danger on their arrival.

JUST as coal has for a number of years been conveyed to Newcastle, so gas has now been brought to York. From October 22nd to 24th the Seventeenth Annual General Meeting and Conference of the British Commercial Gas Association was held at York. We did not have the privilege of being present at this gaseous gathering, but we understand that gas was discussed from all angles, more particularly in relation to the health of the people, an illuminating address on this aspect being delivered by Sir Arbuthnot Lane. In spite of the tremendous advance in electricity and its uses during the past years, gas still holds a high place in the lighting and heating arrangements of the world. We can now see each little therm holding his head higher and crowing a little over his opponent watt as a result of this meeting at York.

RECENTLY we read on the sporting page of our daily paper the oratorical question "Will Arabella succeed where 'Mumty' failed?" The next day we learnt that the "flying filly" had indeed succeeded. We do not know who "Mumty" is —or was—but our opinion of the sororal Night Staff has risen in proportion to the gains accumulated in our pockets as the result of backing such an obvious cast-iron certainty.

THE following appointments have been made :—

House Physicians—

To Dr. Hurst, Mr. D. Ellis (November 16th).

Dr. Mutch, Mr. E. M. B. West (November 16th.

House Surgeons—

To Mr. Steward, Mr. C. R. E. Freezer (November 16th).

Mr. Rowlands, Mr. T. G. Scott (November 16th).

Out-Patient Officers—

Messrs. E. G. Booker, L. Brown, L. G. Pitt-Payne, G. N. Wood (November 1st).

Assistant House Surgeons—

To Mr. Hughes, Mr. E. T. Conybeare (November 1st).

Mr. Davies-Colley, Mr. H. N. W. Harley (November 1st).

Mr. Bromley, Mr. L. B. Langmead (November 1st).

Mr. Slesinger, Mr. J. E. Morton (November 1st).

Mr. Ogilvie, Mr. J. E. Crooks (November 1st).

Obstetric Residents—

To Mr. Chapple, Mr. E. J. Pye-Smith (November 16th).

Messrs. McNair and Cook, Mr. J. K. Moore (January 16th),

House Physician in the Children's Department—

Mr. E. L. Graff (December 1st).

House Surgeon in the Ear, Nose and Throat Department—

To Mr. Mollison, Mr. W. H. Miller (November 16th).

House Physician in the Neurological and Dermatological Departments—

Mr. S. I. Abrahams (December 1st).

Clinical Assistants—

To Mr. Mollison, Mr. N. E. Kendall.

Mr. Layton, Mr. S. A. Scorer.

Neurological Department—

Mr. P. J. Dobbing (August 1st).

Obituary.

Dr. J. W. Emmett.

BY the passing of Dr. J. W. Emmet on October 7th, Guy's loses one of her sons and the whole medical profession one whom it can ill afford to spare. Only 67 years of age, he will be lamented and sorely missed by the very large number of friends and patients he understood and loved so well. This affection was most fully reciprocated. He was the best type of medical adviser, the type which is rapidly disappearing. With broad views, wide sympathies, patience, intuition, understanding, tact and sound medical knowledge, he treated the patient as well as the disease. Hence, his success. In 1894 he married Amy, the daughter of the late Henry Chasemore, Esq., J P., of Croydon, who survives him. In his choice of his wife he was singularly fortunate, for, as all medical men know, it takes an exceptional woman to be the real helpmate of a doctor in active practice. How fully he appreciated her and how well she deserved his esteem is well known to the writer of this obituary notice. For 17 years he practised successfully in Bexhill, and retired to Eastbourne in 1912, with his health somewhat impaired. His benevolent activities, however, did not cease, and for 16 years he continued in medical work and attached to himself a host of friends. Although for years he was never for a waking moment free from pain of cardiac origin, his constant charming smile would hide his own suffering. A great many of us will not be able to replace the loss of a real friend and a true gentleman.

Local Anæsthesia.

A Clinical Lecture by W. H. Ogilvie, Esq., M.Ch.

GENTLEMEN,—There is at the present time no subject more controversial than the place of local anæsthesia in surgery. Estimates of its value vary greatly—from the opinion that it is an expedient which may be used for the removal of small and superficial tumours in order to avoid the necessity of admitting the patient to hospital, to that of some American and Continental surgeons, who look on general anæsthesia as a thing belonging to the past, which has been banished for ever by the introduction of the local method, as Luy's segregator was banished by the advent of the cystoscope. Our own attitude must be decided by a study of the problem for ourselves.

The desire to relieve human suffering is the springhead of medicine. From the earliest times we read of efforts to lessen the pain necessarily inflicted in an operation, both by general narcosis and by local applications; thus Homer, in the eleventh book of the *Iliad*, describes the removal of an arrowhead by Patroclus under local anæsthesia produced by bathing the wound with medicinal herbs. These early anæsthetics were of very doubtful efficiency, and often dangerous. The search for a narcotic drug which was both powerful and safe did not meet with success till within the memory of some who are still alive to-day. It happened that several safe and efficient general anæsthetics were discovered at the beginning of the last century, while an efficient local anæsthetic was not found till 1884 and a safe one till the beginning of the present century. Had the local anæsthetic been discovered first, general anæsthesia might never have appeared.

The term local anæsthesia embraces all methods whereby the sensation of pain is abolished in part of the body without consciousness being lost. The older methods depended upon the application of soporific drugs—usually opium or hemlock, to the part. We know now that no anæsthetic drugs except carbolic acid can penetrate unbroken skin, and such as are absorbed from mucous membranes act, with few exceptions, by virtue of their absorption into the general circulation. Yet the beliefs of Homer survive to-day in the morphia suppository. Pressure was also used from the earliest times for the production of anæsthesia; pain can only be abolished, however, by a degree of pressure sufficient to arrest conduction in nerve trunks, and pressure of such degree is not only very painful in itself, but often leaves a permanent paralysis.

The use of cold as an anæsthetic is of much more recent origin, for early medicine flourished in warm countries, where ice and snow were only seen on the unvisited mountain tops. Napoleon's surgeons found that limbs which had been exposed to extreme cold could be amputated without pain, and suggested the use of freezing solutions in surgery. With the advance of chemistry, a much simpler method of producing intense cold was provided by spraying with substances of low boiling point. In the middle of the nineteenth century operations of considerable severity, such as ovariotomy, herniotomy, and amputations, were performed under the freezing spray. For such major operations cold anæsthesia is unsatisfactory—the tissues are hard, their colour is lost, and the fusion of anatomical planes renders dissection difficult. For simple cutaneous incisions it remains to-day the best local method.

The use of chemical solutions, inaugurated by the discovery of cocaine in 1884, is the only method which is applicable to all circumstances, and is the basis of modern local anæsthesia. The anæsthetic drug may be applied by any of the following methods.

(1) SURFACE ANÆSTHESIA

This is only applicable to the anæsthetisation of mucous surfaces, but is used to a considerable extent in the surgery of the eye, nose, throat, larynx, the rectum and the urethra.

(2) ARTERIAL AND VENOUS ANÆSTHESIA

The solution is injected into an artery or a vein in an area of the body whose circulation has been sequestrated by the application of a tourniquet proximal and distal to that area, and produces immediate anæsthesia of the whole field. This method is effective, but of very little practical value. It is only possible in the case of a limb and, since it requires the use of a tourniquet throughout the operation, it makes a considerable call upon the endurance of the patient.

(3) INFILTRATION ANÆSTHESIA

This method, introduced by Schleich, has established local anæsthesia as a procedure of universal applicability, and is still used by many surgeons. It consists in the injection of a dilute solution of the anæsthetic, first along the line of the incision in the skin, and then into the successive

deeper layers of the operation field as they are exposed, but before they are actually cut. There are, however, two main disadvantages of the method of infiltration: the anæsthetisation has to be done step by step, so that the operation is frequently interrupted to allow fresh injections to be made, and has often to be delayed to allow the parts to become insensitive; and all the tissues in the operation field are rendered œdematous, so that relations are obscured, ligatures applied to the soaked tissues become insecure after the fluid has been absorbed, and healing is sometimes unsatisfactory.

(4) CONDUCTION ANÆSTHESIA

In this method the sensory nerves supplying the area of operation are blocked outside the actual field by bathing their coats in the anæsthetic solution, while the tissues which are to be divided remain in their normal condition. Any surgical operation whatsoever can be carried out under conduction anæsthesia, and all modern methods of local anæsthesia depend in the main upon an interruption of conduction of the painful impulse, and not upon tissue infiltration. The varieties of conduction anæsthesia most commonly employed are (Fig. 1):—

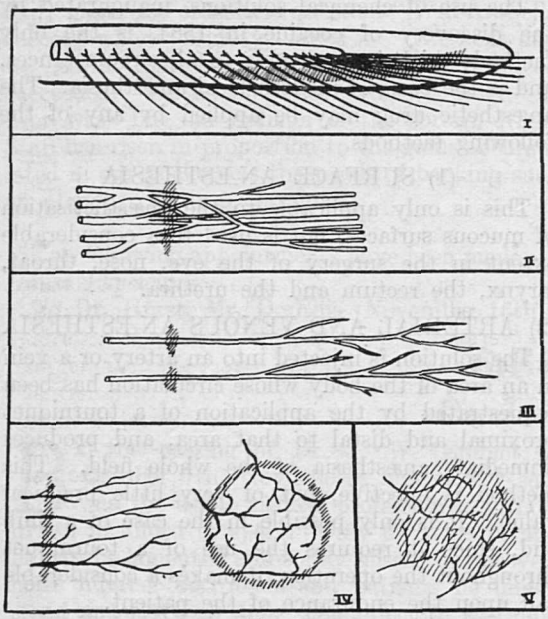


Fig. 1.

Points at which sensation may be interrupted by the application of an anæsthetic solution.

i. Spinal Block.
ii. Plexus block.
iii. Block of Main Nerve Trunks.
iv. Block of Nerve Branches.
v. Block of Nerve Terminations.

(i) *Spinal Anæsthesia*—

The anæsthetic is introduced into the spinal theca, and acts on the posterior nerve roots.

(ii) *Plexus Anæsthesia*—

The solution is injected at a point where all the nerves supplying a part of the body are aggregated together in a plexus. This method is commonly used in the cervical and brachial plexuses.

(iii) *Blockage of Nerve Trunks*—

The position of the large nerves is constant, and they may be reached with ease in certain situations, and blocked by the injection of solution round them. The median and ulnar nerves in the arm and the internal and external popliteal in the leg are often blocked in this way in order to produce anæsthesia of the parts peripheral to the point of injection.

(iv) *Blockage of Nerve Branches*—

The position of the branches of large nerves is not constant, but the direction in which they run is known. Where all the nerves supplying a part run a parallel course an injection across this line will anæsthetise the whole area they supply; thus, a ring of injection round the root of the penis will suffice for circumcision. Where the course of the branches is irregular, conduction anæsthesia can only be secured by surrounding the whole area with a ring of local anæsthetic solution.

(v) *Blockage of Nerve Terminations*—

This is obtained by infiltrating the tissues themselves, that is, by infiltration anæsthesia.

Cocaine, the first to be discovered, remains the most powerful local anæsthetic, but it is very dangerous. It is the only drug which is really effective for surface anæsthesia, but it is quite unsafe for this purpose if there is any breach of the mucous membrane. Medical literature contains the records of numerous deaths due to its use. To-day cocaine is rarely used except for ophthalmic work, in which it forms an ideal anæsthetic.

Altogether, about 20 different local anæsthetic drugs are on the market. The following list includes those whose value has been proved by experience.

TECHNIQUE

Labat's syringe is, in my opinion, easily the best that has been produced for local anæsthesia. The ring grips allow the syringe to be refilled with one hand; this is of the utmost importance when an injection is being made round some deeply situated nerve or plexus, for the needle must be held steadily in position with the left hand during the whole injection. The eccentric nozzle enables one to inject the whole of the fluid without any

LOCAL ANÆSTHETIC SOLUTIONS

Cocaine— Highly dangerous, but more effective than any other drug for surface anæsthesia of mucous membranes.
Inadmissible if any breach of surface.
Practically abandoned, except for eye work.

Novocaine—10 per cent. for surface anæsthesia (very little value).
2 per cent. } for blocking nerves.
1 per cent. }
0.5 per cent. for infiltration.
Up to 100 c.c. of 1 per cent. or 250 c.c. of ½ per cent. may be used.

Adrenalin—1 drop of 1/1000 solution added to each 10 c.c. anæsthetic solution.

Tutocaine— 0.25 per cent. to 0.5 per cent.
A new drug, very popular on the Continent. Less toxic even than novocaine, in solutions of equal efficiency.

Stovaine— Used chiefly for spinal anæsthesia.

Borocaine— Slow acting, slow diffusion.
Does not need the addition of adrenalin.
Chief value in surface anæsthesia.
2 per cent. solution nearly as effective as cocaine and non-toxic.

air. The needles are much longer and finer than ordinary needles, are flexible, and cannot snap in the tissues; their bayonet joint is leak-proof and quickly detachable. It is wise to give morphia, or morphia and hyoscine, before any major operation done under local anæsthesia.

The administration of a local anæsthetic should be carefully planned beforehand. The nerve supply of the whole area of operation and the points at which the nerves can be most easily injected must be first considered, then the smallest number of punctures by which all the points to be injected can be reached. The number of these punctures will depend upon the size of the operation field, the contour of the skin covering the part, and upon the length of the needle which is to be used for the deeper injections. The sites of puncture are then rendered insensitive by intradermal wheals. A very fine needle is thrust with a sudden movement through the epidermis only, and ½ per cent. novocaine solution is then injected with considerable pressure on the piston, so that the skin becomes raised into a white blister, which is immediately insensitive. It is rarely necessary to make more than four such wheals for any operation. A longer needle is then fitted for the deeper injections. In order to make these painlessly, the needle, inserted through the insensitive wheal, is pushed slowly forwards while steady pressure is maintained on the piston, so that about 1 c.c. of solution is injected for each centimetre of travel. Large nerve trunks are first injected, then the deeper planes where nerve branches are encountered; lastly, the skin round the area of operation. By these means satisfactory anæsthesia can be obtained in any part of the body, lasting, on the average, two hours. It is important to use plenty of weak solution, and to wait at least 10 minutes before commencing the operation. Imperfect anæsthesia is due either to hurry or to the omission of some important nerve supply.

To illustrate these principles I will describe in detail the methods of producing anæsthesia for the operation of radical cure of an inguinal hernia. Ths skin in the area of operation is supplied by the last dorsal, ilio-hypogastric, ilio-inguinal, crural branch of the genitocrural, pudendal branch of the lesser sciatic, and the scrotal branches of the pudic nerve; the cord and sac are supplied by the spermatic nerves and the genital branch of the genitocrural; the peritoneum and muscles by the ilio-inguinal and ilio-hypogastric nerves.

To anæsthetise this field three points of puncture are required, one or two fingers-breadth medial to the anterior superior spine, one over the external abdominal ring, and one over the saphenous opening. At each of these points an intradermal wheal is raised (Fig. 2). Through the first of these points the ilio-inguinal and ilio-hypogastric nerves are blocked as they run between the internal oblique and transversalis, by infiltrating the whole thickness of the muscular layers with 20 c.c. of solution. Through the same point two further injections of 10 c.c. each are made under the external oblique aponeurosis in a downwards and inwards direction, one passing above the inguinal canal, the other along Poupart's ligament. The spermatic cord is next picked up between the finger and thumb of the left hand and injected through the second dermal wheal with 10 c.c. of 0.5 per cent. solution. This injection renders the cord, sac and testis insensitive. Through the

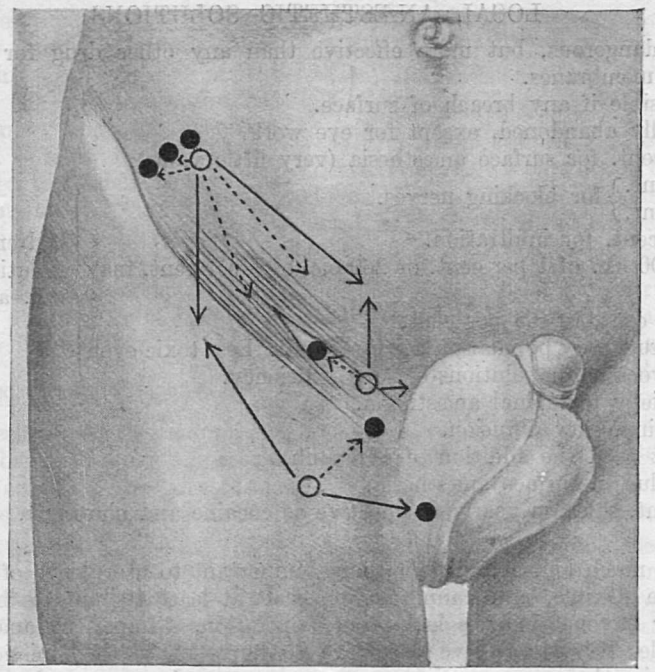


Fig. 2.

third point 5 c.c. of solution are injected round the pubic spine, deep to the cord, and 10 c.c. at the base of the scrotum, to block the scrotal and pudendal nerves. Lastly, through all three wheals, the subcutaneous tissues are injected in a line surrounding the area of operation, in order to cut off the branches from neighbouring cutaneous nerves.

By this method satisfactory anæsthesia can be secured for any operation on an inguinal hernia. The order in which the injections are made is important. The deeper ones are done first, not only to allow the solution plenty of time to soak through the sheath of the nerves, but because they can be placed with greater accuracy if the surface markings have not been obscured by infiltration.

THE PLACE OF LOCAL ANÆSTHESIA IN SURGERY

The disadvantages of local anæsthesia are few. The only painful sensation which the patient should feel in an ordinary operation is the slight prick necessary in making the dermal wheal; the deeper injections are painless unless the periosteum or a large nerve trunk are punctured. Sensations of touch and pressure are not, however, abolished, and may be interpreted as pain by a nervous patient. From the point of view of the surgeon the chief disadvantage is the additional time involved in the operation. Very gentle technique is necessary, and absolute silence imperative, for the conscious patient is easily alarmed by the clatter of instruments or the conversation of assistants. A more real disadvantage is that under local anæsthesia the field of operation cannot be quickly enlarged, so that any extension beyond the area originally planned involves additional loss of time. Healing may be delayed, especially in fat subjects.

To set off against these drawbacks, local anæsthesia offers very many substantial advantages, which become the more apparent when it is applied to major surgery. It is absolutely safe, even in cases with renal or cardiac disease. The vast majority of deaths occurring as the direct outcome of a surgical operation are due to two causes—shock or lung complications. Both of these are absent after an operation under local anæsthesia. Vomiting, a complication that is always unpleasant and may be serious after abdominal or cranial operations, does not occur. The operation itself is rendered much easier by the absence of bleeding from small vessels, so that topography is readily recognised, and only the larger vessels require ligature. Local anæsthesia also allows the surgeon to dispense with the services of an anæsthestist, and in smaller operations to work without an assistant, for the patient is himself able to help—to put himself in the right position and to sit up for the application of the dressing.

There is no operation in surgery of any magnitude, or in any situation, which cannot be done

under local anæsthesia alone. For an operation of moderate severity and length, in a patient who is healthy, I should unhesitatingly prefer general anæsthesia, provided the services of a good anæsthetist were available. Time is saved, the patient is spared, and the risk from the anæsthetic is a very small one. There are, however, four or five distinct groups of operations in which I consider local anæsthesia to be a very great advantage, and in which I believe it will be the routine method of the future. These are :—

(1) Small manipulations, such as exploratory punctures or incisions, the passage of catheters and the dilatation of strictures, which are frequently done without any anæsthetic, and not severe enough to warrant a general anæsthetic, yet cause considerable pain.

(2) Small operations, such as circumcision or the removal of localised superficial tumours.

(3) Emergency operations where the patient is in a condition of shock. Here local anæsthesia may be used alone, or combined with a general anæsthetic. Either is safer and more satisfactory than a spinal anæsthetic.

(4) Urgent operations on patients with some morbid condition—diabetes, cardiac, renal or pulmonary disease—in which a general anæsthetic is counter-indicated.

(5) Any operation on the aged, which in younger men would be done under general anæsthesia. The old are notably prone to respiratory troubles, even after short periods of inhalation anæsthesia. Among such operations, those for irreducible hernia bulk largely.

With regard to the particular methods of local anæsthesia which are of value, I will confine my remarks to those whose importance is sufficient to warrant your making youselves acquainted with them.

We must first consider spinal anæsthesia. There appears to be a very general tendency to-day to discard spinal anæsthesia in favour of the different methods of peripheral nerve block. Finsterer, of Vienna, who does not operate except under local anæsthetic, has entirely abandoned the spinal method in his practice. One great disadvantage of this method is that it abolishes the vasomotor reflex, and therefore leads to a marked drop in the blood pressure ; its use is therefore unsafe in those cases where it is most needed—where shock is already present. The spinal method does not produce satisfactory anæsthesia above the umbilicus, nor does it abolish the sensibility to traction of the mesenteries and structures supplied by the splanchnic nerves. Its employment is often followed by headache, occasionally by paraplegia, which has in some cases been permanent.

The methods which have proved by repeated trial to be of value are :—

(1) CIRCUM-INJECTION

This is used for producing anæsthesia for the removal of small tumours. It differs from the older method of infiltration in that no solution is injected into the area of operation itself, but this is isolated by a barrier of infiltration which cuts off all sensation. If the operation is purely cutaneous, as in a circumcision, a surrounding ring of subcutaneous injection is sufficient. If it includes deep structures the area of operation must be surrounded by a cone-shaped wall of infiltrated tissues (Fig. 3).

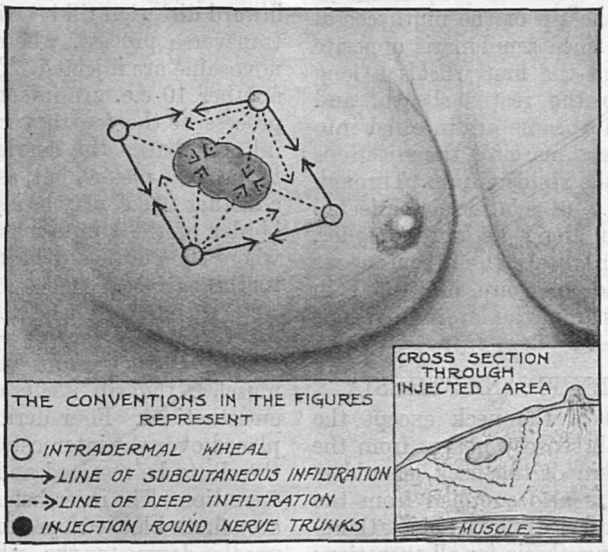


Fig. 3.

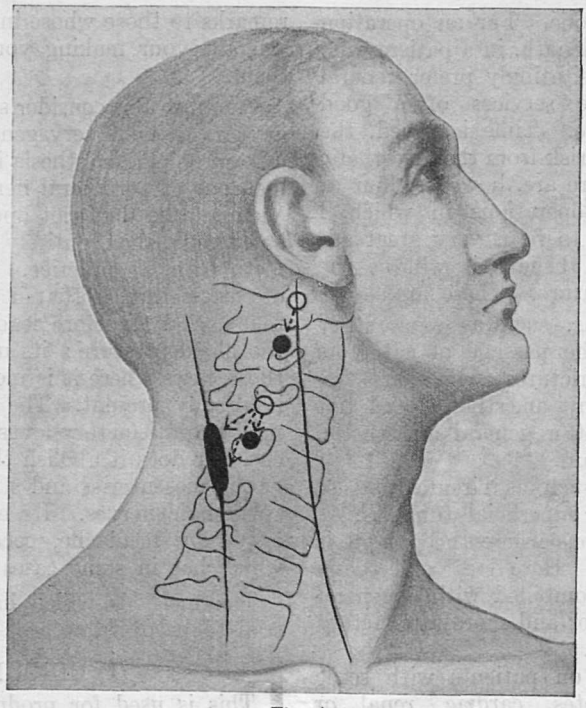


Fig. 4.

(2) RECTUS SHEATH ABDOMINAL FIELD BLOCK

This is merely a special instance of the method of circum-injection. The nerves at the outer border of the rectus sheath lie immediately deep to the aponeurosis, and if they are blocked in this situation, the muscle and its sheath are anæsthetised, and also the overlying skin and the underlying peritoneum. Four wheals are required, two on each side opposite the tip of the ninth costal cartilage, two over the linea semilunaris opposite the umbilicus. Through the first wheals a long needle is inserted into the rectus sheath, and 10 c.c. of ½ per cent. novocaine are injected into the muscle along the costal margin ; the injections from each side meet at the xiphisternum. Through the second wheals 20 c.c. of solution are injected into the rectus sheath along its outer border. Finally, through all four wheals, the subcutaneous tissues surrounding the area are infiltrated in order to block branches from the lateral divisions of the cutaneous nerves.

(3) CERVICAL PLEXUS ANÆSTHESIA

All the deep tissues of the neck except the larynx are supplied with sensory nerves from the cervical plexus ; the skin of the neck, shoulders and back of the head is also supplied from the same source. Bilateral cervical plexus block therefore provides effective anæsthesia for all operations on the thyroid, lymph glands or vessels of the neck. Unilateral block is sufficient for most gland operations and for exposure of the carotid sheath (Fig. 4).

Two wheals are made in the line of the transverse processes of the cervical vertebræ—one just below the tip of the mastoid, one at the level of the upper border of the thyroid cartilage. Through the upper wheal a needle is inserted in a downward and inward direction till it strikes the tip of the second transverse process, where 10 c.c. of 1 per cent. novocaine are injected. Through the second wheal another 10 c.c. are injected round the transverse process of the fourth vertebra. The 20 c.c. thus injected bathe the cervical nerves as they unite to form the plexus, but, as an additional safeguard, a further 10 c.c. may be injected along the posterior border of the sterno-mastoid in its middle third, where the cutaneous branches of the plexus come to the surface.

(4) RIB RESECTION FOR EMPYEMA

Here the skin and subcutaneous tissues, the muscles, the rib itself and the pleura must be anæsthetised. Four dermal wheals are necessary, placed over the intercostal spaces above and below the rib to be resected and well beyond the area of operation. The intercostal nerves above and below are first blocked proximally by inserting the needle down to the rib through the posterior

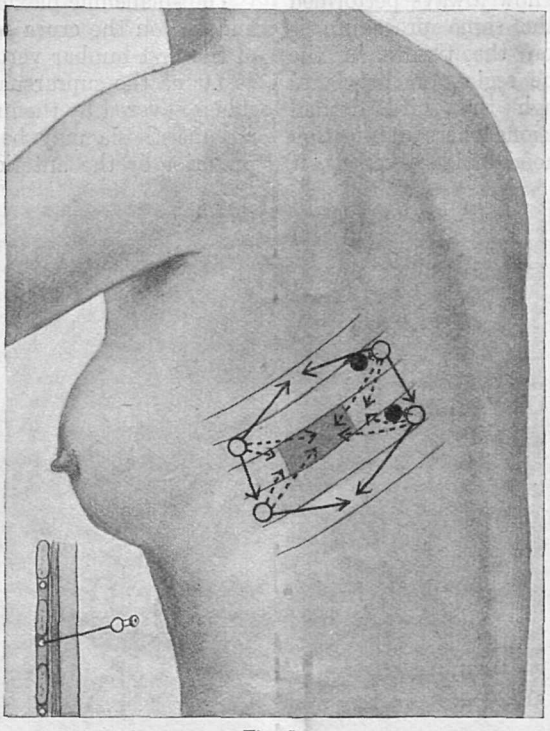


Fig. 5.

wheals, and sliding its point over the lower edge of the bone into the intercostal space, and then injecting 10 c.c. of 1 per cent. solution. The overlying muscles and the subcutaneous tissues round the incision are then infiltrated with 0.5 per cent. solution (Fig. 5). Local anæsthesia is entirely satisfactory for these operations and should supplant general narcosis.

(5) LOCAL ANÆSTHESIA FOR OPERATIONS ON THE HAND

This is an example of anæsthesia procured by blocking main nerve trunks. The subcutaneous tissues are first injected with ½ per cent. novocaine all round the forearm, two fingers-breadth above the wrist, working through two dermal wheals (Fig. 6). Through the anæsthetic area thus produced 5 c.c. of 1 per cent. solution are next injected round the median nerve; this lies beneath the investing fascia immediately deep to the palmaris longus tendon. The ulnar nerve is anæsthetised in a similar manner by inserting the needle on the inner aspect of the wrist just behind the flexor carpi ulnaris tendon to a depth of ½ to ¾ of an inch, so that its point lies between this tendon and those of the long flexors of the fingers. Finally, an injection of 5 c.c. of 1 per cent. novocaine is made on the surface of the lateral aspect of the radius to block the cutaneous branch of the radial nerve. By this method adequate anæsthesia can be secured for any operation on the hand, such as tendon suture, extraction of foreign bodies, or excision of the palmar fascia for Dupuytren's contracture.

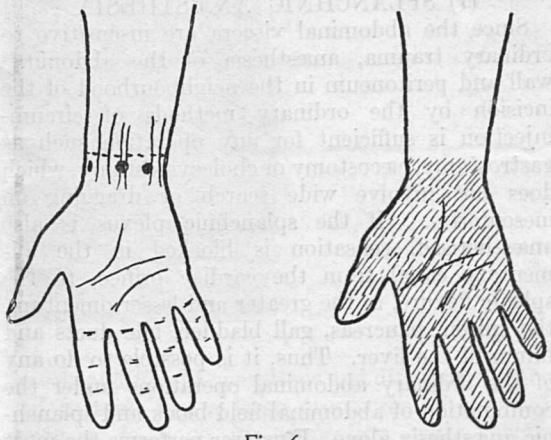


Fig. 6.

Conduction Anæsthesia of the Hand.

(6) OPERATIONS FOR HERNIA

Anæsthesia for inguinal hernia has already been dealt with. In the case of a large scrotal hernia, it is advisable to anæsthetise both sides of the scrotum by circum-injection. In operations for

femoral hernia, which are now always performed by the inguinal route, the same procedure is necessary, but in addition the tissues in the saphenous opening and the region of the crural canal are injected through the third dermal wheal. Here, as on all occasions where an injection is made in the neighbourhood of large vessels, it is necessary to aspirate before injecting the solution in order to make certain that the needle is not in a large vein. A special syringe for this purpose is included in the Labat outfit.

(7) SPLANCHNIC ANÆSTHESIA

Since the abdominal viscera are insensitive to ordinary trauma, anæsthesia of the abdominal wall and peritoneum in the neighbourhood of the incision by the ordinary methods of circum-injection is sufficient for any operation such as gastrostomy, cæcostomy or cholecystostomy, which does not involve wide search or dragging on mesenteries. If the splanchnic plexus is also anæsthetised, sensation is blocked in the alimentary canal from the cardiac orifice, to the splenic flexure, in the greater and lesser omentum, the spleen, pancreas, gall bladder, bile ducts and hilum of the liver. Thus, it is possible to do any of the ordinary abdominal operations under the combination of abdominal field block and splanchnic anæsthesia alone. Finsterer performs the most extensive gastric operations under this type of anæsthesia. Very few British surgeons follow his lead in this matter, but an increasing number find that splanchnic anæsthesia combined with gas and oxygen or light ether greatly lessens their mortality in severe operations in the upper abdomen.

The splanchnic plexus surrounds the cœliac axis and lies on the crura of the diaphragm and body of the first lumbar vertebra; laterally, it extends as far as the suprarenal bodies, and on the right side is covered by the inferior vena cava. Splanchnic anæsthesia may be carried out by either the posterior or the anterior method.

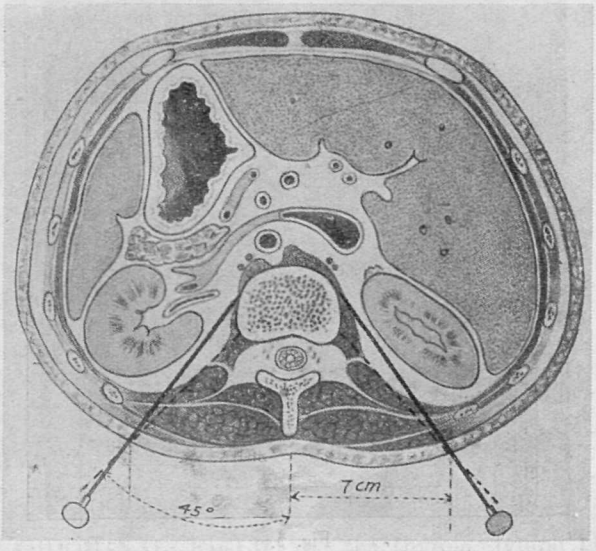


Fig. 7.

In the posterior method a dermal wheal is first raised on each side at a point 7 cm. lateral to the spine of the first lumbar vertebra; this point lies on the lower border of the twelfth rib. Through this wheal a long needle is inserted forwards and inwards at an angle of exactly 45° with the sagittal plane, till it strikes the side of the body of the first lumbar vertebra (Fig. 7). Its point is then withdrawn and pushed slightly forwards till, after two or three attempts, it is felt to slide over the side of the vertebral body, when it is pushed on gently 1 cm. further. After aspiration, to make certain that the point is not in a vein, 40 c.c. of ½ per cent. novocaine are injected slowly into the retro-peritoneal tissues. The same procedure is next repeated on the opposite side. The patient is then turned on to his back and an abdominal field block carried out.

In the anterior method the abdominal wall is first anæsthetised by circum-injection. After the abdomen has been opened, the liver is gently retracted upwards by the hand of an assistant, and the operator places the fingers of his left hand upon the body of the first lumbar vertebra which can be felt through the lesser omentum. The aorta is pushed aside by the index and a 12 cm. needle is slid along the middle finger till its point

rests on the vertebra. After aspiration 60 c.c. of ½ per cent. novocaine are injected slowly.

(8) SACRAL AND CAUDAL ANÆSTHESIA

The lower part of the colon and the pelvic viscera receive their nerve supply from the hypogastric plexus, and are not therefore rendered anæsthetic by splanchnic nerve block. The sensory fibres from this plexus enter the central nervous system by the sacral nerves.

Anæsthesia of the sacral plexus is carried out by extra-dural infiltration. Two methods are used—caudal anæsthesia, which blocks the sacral nerves as high as the hird, though it may extend up to the first sacral, and sacral anæsthesia, which controls the whole sacral plexus. Caudal anæsthesia is very useful for the passage of the cystoscope, for operations on the urethra, the anal canal, the cervix and for operations on the prostate and rectum performed entirely from below. Sacral anæsthesia renders all the pelvic viscera insensitive. Combined with an abdominal field block, it provides excellent anæsthesia for any operation on the rectum, bladder, prostate, uterus or ovaries.

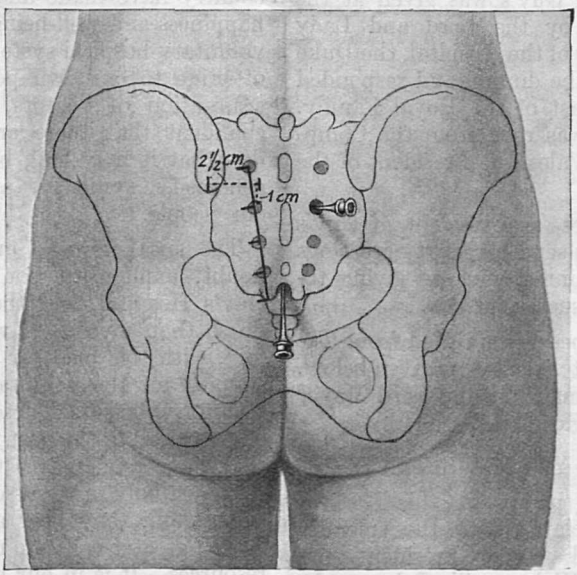


Fig. 8.

The sacral cornua are easily identified just above the upper end of the natal cleft. A wheal is raised just below the cornua, and through this a needle is inserted so as to pass between the cornua, piercing the posterior sacro-coccigeal ligament, and entering the sacral canal; 5 c.c. of 1 per cent. novocaine are then injected (Fig. 8). The needle is pushed slowly forward, its point being kept in the lumen of the sacral canal for another 2 inches. Aspiration is then tried, for there are many large veins in the sacral canal, and it would be dangerous to inject the solution directly into the circulation. If no blood appears a further 30 or 40 c.c. of solution are injected very slowly. To anæsthetise the whole sacral plexus, caudal anæsthesia is first produced by the method just outlined. Further wheals are then raised over the posterior sacral foramina, and 1 per cent. novocaine solution is injected, 5 c.c. into the first foramen, 4 c.c. into the second, 3 c.c. into the third and 2 c.c. into the fourth. The second foramen lies 2.5 cm. medial to the posterior superior iliac spine and 1 cm. below its level; this is first injected. The points of trisection of a line joining the second foramen to the sacral cornua mark the third and fourth foramina; the first foramen lies the same distance above the second.

Local anæsthesia is probably used less in Britain than in any other country whose surgery is on a level comparable with our own. There are many factors which account for this seeming neglect. Chief among them is the fact that the standard of general anæsthesia in our country is of a very high order, not only from the point of view of safety to the patient, but of adaptability to the needs of different operations and different surgeons. In Britain, too, a large proportion of the major surgery is done in connection with teaching hospitals, where the constantly changing personnel renders difficult the development of any technique which depends for its efficacy on highly co-ordinated team work.

During the last three years I have attempted to explore the possibilities of the method, and have carried out about 200 major operations under local

anæsthesia alone; among these have been cranial operations, removal of parotid tumours, dissection of glands in the neck, operations on the thyroid for adenoma and for exophthalmic goitre, tracheotomy, operations for empyema, the radical operation for carcinoma mammæ, gastrostomy, gastrectomy, gastro-enterostomy, cholecystostomy and cholecystectomy, colostomy and cæcostomy, operations for hernia, including cases of strangulation involving resections of gut, nephrectomy, prostatectomy, operations for piles, amputation through the thigh and plating of the tibia. In some cases local anæsthesia was used to try the possibilities of the method, as in the operation for cancer of the breast, where many nerves from varying sources have to be blocked; in others because the patient was very ill.

I believe—though my views may change—that the majority of operations upon young people can be done so safely under general anæsthesia when a good anæsthetist is available that this method will retain its pre-eminent position in our hospitals. For some operations, especially those for empyema, local should replace general anæsthesia; for others, notably operations on the mouth or pharynx, its disadvantages outweigh any theoretical gains. In operations upon the aged, upon those suffering from shock or afflicted with some general disease, local anæsthesia, either alone or combined with gas and oxygen, is a measure of the greatest value, and should be employed very much more widely than it is at the present day. For this reason I commend you to study the method for yourselves.

I wish to express my thanks to Messrs. J. & A. Churchill for the loan of the blocks in Figs. 2, 3, 4, 5, and 8.

The Festival Dinner.

ON Tuesday, October 23rd, a Festival Dinner in aid of Guy's was given at the Mansion House by the Lord and Lady Mayoress. As a Governor of the Hospital, the Duke of York was present at the dinner, and responded to the Lord Mayor's toast of the Royal Family. The following message was read from the Comptroller to the Prince of Wales, the President of the Governors :—

> The Prince of Wales, as President of Guy's Hospital, desires me to send his hearty greetings and hopes that the dinner you are giving to-night will be a very successful one.

The Duke of York's speech, reprinted from *The Times* of Wednesday, October 24th, is given below, followed by the speech made by the Lord Mayor in his toast of "Guy's Hospital."

THE DUKE OF YORK'S SPEECH

I am very glad to be present at this Festival Dinner and to be associated with the splendid work of Guy's Hospital. Your President—my brother, the Prince of Wales—will, I know, be keenly interested to learn of the result of to-night's gathering of supporters of his Hospital. When I send him an account of my stewardship, I hope I may be able to refer—with, I trust, pardonable pride—to a successful Guy's Hospital dinner.

The whole voluntary hospital system stands to-day on its trial. Although different views have been put forward and varying opinions have been expressed for and against the continuance of the voluntary system, there is no denying the contribution which the voluntary hospitals of this country have made and are making towards the happiness and well-being of the human race. Our voluntary hospital system has long been an object of pride to our own people; it has evoked the admiration of visitors from abroad, and I am confident that there are many who pray—as I do—that it may long be spared to testify to the generosity, sympathy and kindly social spirit of our people.

The speakers who are to follow me will, no doubt, explain to you the particular needs of Guy's Hospital, and they are better qualified to do so than myself. I will content myself, therefore, with this plea for a still greater measure of support for the voluntary hospital system. The voluntary hospitals deserve well of the country. Their record in the past is unequalled. The service they have rendered to the community cannot be reckoned only in terms of £ s. d. Their work continues, and they bear an ever-increasing burden as still greater calls are made upon their restricted resources. It is in our hands to ensure that their future shall be freed from the anxiety of financial embarrassment. I can imagine no more noble service than this.

Guy's Hospital stands second to none in its usefulness and importance to the community. Those in whose hands is the responsible task of continuing and enlarging the scope of its activities are right to remind us of the trust that is no less ours than theirs. So long as Guy's Hospital is encumbered by debt we stand convicted of neglecting

our trust. Until the future of this great hospital has been secured we dare not presume again to pride ourselves on the public spirit and generosity of our people. A very large sum of money is required—a sum of such magnitude as to dwarf even the generous legacy of its founder. Thomas Guy would be a proud man if he could see his hospital to-day, and how much prouder would he be if he knew that this generation, like its predecessors, had not failed to respond with cheerful liberality to the call of the sick and suffering poor. Surely it is not too much to hope that the magnificent and bountiful generosity of this son of Southwark may, even after the lapse of 200 years, inspire others to follow his noble example.

THE LORD MAYOR'S SPEECH

May it please Your Royal Highness, my Lords, Ladies and Gentlemen,—

It is now my privilege and pleasure to propose the toast of Guy's Hospital, the Hospital "founded at the sole costs and charges of Thomas Guy, Esquire," as it is described in the Act of Incorporation of 1725.

Guy's Hospital is almost unique in that it is one of the very few hospitals in Great Britain which immortalises in its title the munificence of one individual citizen—and he a citizen of London.

And it is singularly appropriate that I should, this evening, in this room, be appealing on behalf of Thomas Guy's Hospital, as Thomas Guy himself was a citizen and a liveryman of the City of London, and lived, worked, made his fortune and died in his house at the junction of Cornhill and Lombard Street, not a stone's throw from here, on the spot where the Liverpool, London and Globe Insurance Company owns its imposing offices.

It may also be of signal interest to Your Royal Highness to remember that some of Your Royal Ancestors have been indebted to the medical and surgical skill of the Staff of Guy's Hospital.

Over a hundered years ago Sir Astley Cooper, one of the most distinguished surgeons who have adorned the Staff of Guy's Hospital, received the honour of a baronetcy for successfully removing an unsightly and painful tumour from the scalp of His Majesty King George IV; Sir William Gull, one of Guy's most famous physicians, attended Your Royal Highness's grandfather, King Edward VII, then Prince of Wales, during that attack of typhoid fever in which his life was in grave peril, and their modesty alone will prevent me on this occasion mentioning other members of the Guy's Staff now living who may also have performed similar services for your royal family.

To those of this assembly who may not know much about Thomas Guy, I may recall that he was the son of a lighterman, and was born just the other side of the river, in Horsleydown.

In the early days of his life he was made a Freeman of the Stationers' Company, and became a dealer in foreign printed Bibles, and in his later years he had a monopoly of printing Bibles for the University of Oxford. In this business he amassed a competence, and he then developed into a sort of banker, discounting soldiers' and sailors' pay warrants, which were in that period very often very much in arrear, for cash.

In this occupation he became a wealthy man, and then he embarked upon that sudden and successful gamble which gave him a fortune almost unparalleled in those times. In 1720 he invested in South Sea Stock at about £50 or £60, and within a few months sold it at £600 before the crash came.

He was a Governor of St. Thomas's Hospital, and was so distressed at the number of patients for whom St. Thomas's Hospital could not provide the necessary relief that he decided to build a hospital in the immediate neighbourhood of St. Thomas's Hospital at his own expense.

The Hospital was built by him, and he saw the finish of his work. Shortly after the buildings were completed, but before any patients were admitted, he died—on December 27th, 1724.

In his life penurious of habit, in his death he was lavish. After making provision in his will for numerous relatives and for other charitable purposes, he left the residue of his estate, amounting to over £220,000, for the maintenance of his Hospital and for the reception thereof of "Four hundred poor Persons, or upwards, labouring under any Distempers, Infirmities or Disorders, thought capable of relief by Physick or Surgery."

With this endowment, and with the value of money at that time, the Hospital had no need to call upon the charitable public for support. Then, nearly 100 years' later, Guy's Hospital received another large bequest under the will of Mr. William Hunt, a Governor of the Hospital, the legacy amounting to about £180,000.

With the combined endowment of Thomas Guy and William Hunt, Guy's Hospital continued to provide for the needs of the sick poor without external assistance until the latter years of the nineteenth century, when the depression in the value of its landed estates so reduced its income that the Governors were compelled to invoke the assistance of the charitable public, and from that time Guy's Hospital has been compelled to rely for its sustenance upon the continual support of the benevolent.

In 1896, under the direct patronage, and with the personal interest, of Your Royal Highness's

grandfather, King Edward VII, then Prince of Wales, a Festival Dinner was held to initiate a Fund for the re-endowment of the Hospital, the sum of half a million pounds being asked for so that the Hospital might once again be placed on a sound financial footing and relieved from the necessity of perpetually appealing to the public for support.

At this Dinner, graced by the presence of His Royal Highness the Prince of Wales, the sum of no less than £96,000 was raised, and with this magnificent contribution as a nucleus, the Governors set themselves year by year to realise their ideal.

The Re-Endowment Fund of Guy's Hospital thus started in 1896 last year reached the allotted sum of £500,000, and, if it has not been for the war, the purpose for which the Governors had founded the Re-Endowment Fund would have been achieved, and it would not have been necessary for this Festival Dinner to be held here to-night.

The war, however, in the matter of hospitals —as in many other paths of our social life—has destroyed all previous calculations. The value of money has diminished, and the cost of living has increased, with the result that, whereas in 1914 the annual expenditure of Guy's Hospital was £76,000, last year it was £172,000.

The problem of increased expenditure in hospitals is not peculiar to Guy's ; it has involved all the voluntary hospitals in England, and as an illustration I might state that in 1897 the expenditure of the voluntary hospitals in London was £700,000, whereas in 1927 it was over £3,000,000.

Nothing, however, has been more amazing in these hard years since the war than the response which has been made, not only by the charitable public, but by the patients themselves to the increasing needs of the voluntary hospitals. The money flowing into the coffers of the voluntary hospitals have kept pace with their demands, and it is clear from the last report of King Edward's Hospital Fund for London that the voluntary hospitals as a whole are holding their own, for they ended last year with a general surplus of £71,000.

I think, therefore, that I am entitled to say that the charitable public of London and the patients in the hospitals themselves have expressed in no uncertain voice their belief in the voluntary system, and their desire that it should continue.

But, though some hospitals have been fortunate, and though, generally speaking, they are paying their way, some of them are not getting that support which they so sorely need, and Guy's Hospital is one of these.

If you will look at the papers on the table you will see that, with only two small exceptions, Guy's Hospital has incurred a deficit every year since the close of the war. Its combined surpluses have amounted to only £8,245, and its combined deficits on maintenance alone have amounted to £93,000.

It is quite clear that no hospital can continue losing money at this rate, and it is with the express purpose of bringing to your notice to-night the needs of Guy's Hospital that it has been my pleasure to invite you to the Mansion House.

It is possible that Guy's Hospital may not attract the attention of the public because it is rather obscurely situated in a poor district of London, and does not obtrude itself upon the notice of London's citizens. Its position in this poor and obscure district is the very justification for its existence and its highest claim upon your benevolence. Where better could a hospital be placed, and could it have any better claim for assistance ?

Guy's Hospital may also not receive its full measure of support because its Governors feel very acutely that the wealthy benefactors of London are in danger of becoming deafened by the daily appeals for charities on every side, and they have not resorted to those sensational appeals with which you are so familiar. It is for this reason that now, as in the past, the Governors desire not only to wipe off their burden, but also once again so to endow the Hospital that they may avoid these continued appeals for day to day support.

In their appeal the Governors of the Hospital feel that they are fortified both by the expressed gratitude of the Hospital's patients and by the extraordinary efforts that these patients are making to show it. Did any of you see a notice in the personal column of the *Daily Telegraph* the other day. It was as follows :—

> " No. 18, Job Ward (April 7–25, 1927), tenders his GRATITUDE to the Surgical, Medical and Nursing Staffs of Guy's Hospital, London Bridge, for another year of life after a wonderful operation, which saved him from the Valley of the Shadow of Death. For over 200 years the Surgeons, Physicians and Nurses of Guy's have dealt with millions of cases, saving lives and relieving pain and suffering. Their names are enshrined in the hearts of grateful patients. A donation to Guy's is an investment in human lives ; it blesses the donor and relieves suffering humanity."

That patient was a compositor who, of his own initiative and at his own expense, chose that striking way of declaring to the world his gratitude.

So much for the gratitude expressed. Here, now, are two figures which show you how those patients are trying to turn words into deeds :—

The patients of the Hospital, by means of their personal contributions, have in the last 10 years increased their quota to the Hospital income from £6,600 a year to over £33,000 a year. Will not the charitable public make an equal effort ?

The adverse situation in which Guy's Hospital finds itself is not due to extravagance, for it is apparent from the returns of King Edward's Hospital Fund for London that it is one of the most economical of the big London hospitals. Its financial needs are due to the ever-increasing value of its work and to the growing complexity and expense of medical investigations and of medical and surgical treatment.

If Guy's Hospital is to continue it either needs a new endowment of £500,000 or an assured additional income of £20,000 a year.

Such, in brief outline, are the financial needs of Guy's Hospital, and I earnestly commend this great charity to your careful consideration.

May I now finally, for a few moments, leave figures aside, as they are all set before you in the papers on the table, and appeal to you on the human side of the problem.

Over 300 of us are gathered here to-night—in health, comfort and well-being. Do you realise that a company twice as large as this, oppressed by sickness, disease and suffering, is being daily treated within the walls of Guy's Hospital ? Each one of these inmates is the bread-winner of the family or the beloved wife or child of the bread-winner—all of them in necessitous circumstances, on the border-land of want, and entirely unable to pay for the treatment which is so necessary for their restoration to health.

If each one of you will try to put himself in the position of having one near and dear to him stricken down by accident or disease, and will try to realise the anguish and anxiety he would suffer in such circumstances, you all may comprehend to some extent the humane work which is daily being done in that great Hospital founded 200 years ago by one of the immortal citizens of this Corporation.

It is a fine thing for all of us sometimes to dream dreams; my dream is that one day, I hope in the near future, another citizen of London may arise whose imagination will be fired by the example of Thomas Guy, and that by his benevolence in re-endowing Thomas Guy's great hospital, he may attain the immortality which Thomas Guy has so justly earned. Can any man wish for a finer epitaph than those lines which are engraved on Guy's tomb in the Chapel of Guy's Hospital, in the crypt of which he sleeps his eternal sleep :—

> "It is peculiar to this beneficent Man to have persevered through a long course of prosperous industry, in pouring forth to the wants of Others, all that he had earned by labour, or withheld from self-indulgence. Warm with Philanthropy, and exalted by Charity his Mind expanded to those noble affections which grow too rarely from the most elevated pursuits. He provided a Retreat for hopeless Insanity, and rivalled the endowments of Kings."

Your Royal Highness, my Lords, Ladies and Gentlemen, I give you the toast of Guy's Hospital.

In response to this toast, Mr. E. P. Whitbread, the Treasurer of the Hospital, said that, faced with the necessity of enlarging and remodelling the Out-Patients' Department at a cost of £70,000, the Hospital Management had been placed under a great debt of gratitude by a Governor, Sir Gilbert Wills, who made the magnificent offer of £50,000 towards defraying the expense.

Later, the Lord Mayor announced that the list of donations in response to the Appeal amounted to over £29,000.

PRELIMINARY DONATION LIST

	£	s.	d.
H.R.H. The Duke of York, K.G.	26	5	0
The Rt. Hon. Viscount Bearsted (Conditional)	5000	0	0
"M"	5000	0	0
Colonel and Alderman Sir Charles Wakefield, Bart., C.B.E.	1050	0	0
Lady Cooper, O.B.E.	1000	0	0
F. P. Whitbread, Esq.	1000	0	0
Sir H. Cosmo O. Bonsor, Bart.	1000	0	0
The Rt. Hon. Lord Revelstoke, G.C.V.O.	1000	0	0
Robert Fleming, Esq.	1000	0	0
Ancient Order of Froth Blowers	1000	0	0
Messrs. Barclay Perkins & Co., Ltd.	500	0	0
Sir Mortimer Singer, K.B.E.	500	0	0
A. C. Gladstone, Esq.	500	0	0
W. Robertson, Esq.	500	0	0
The Hon. Evelyn Hubbard	500	0	0
J. B. Joel, Esq.	500	0	0
The Worshipful Company of Mercers	500	0	0
Sir Alfred Fripp (*a*) (Conditional)	500	0	0
West Side Country Club (on Account of Proceeds from Charity Tennis Challenge)	379	0	0
The Proprietors of Hay's Wharf, Ltd.	262	10	0
C. W. Sofer Whitburn, Esq.	250	0	0
The Rt. Hon. Lord Marshall, K.C.V.O.	250	0	0
Harry Lloyd, Esq.	250	0	0
Walter S. M. Burns, Esq.	250	0	0

	£	s.	d.
Messrs. Barclay's Bank, Ltd.	250	0	0
Oswald Magniac, Esq.	250	0	0
W. R. Moon, Esq.	250	0	0
Sir Richard Cooper, Bart.	210	0	0
Rt. Hon. Lord Queenborough, G.B.E.	200	0	0
H. A. Trotter, Esq.	200	0	0
The Proprietors of Butler's Wharf, Ltd.	150	0	0
Col. Lord Henry Bentinck, M.P.	125	0	0
Thomas Haynes, Esq. (towards Borough Market Bed Endowment Fund)	125	0	0
Major Reginald Bonsor	105	0	0
The Rt. Hon. Viscount Astor	105	0	0
Lieut.-Col. Sir John Humphery	105	0	0
John Robarts, Esq.	105	0	0
Eustace E. Palmer, Esq.	105	0	0
H. W.	105	0	0
R. P. Rowlands, Esq. M.S.	105	0	0
The Rt. Hon. Lord Biddulph	100	0	0
J. Herbert Benyon, Esq.	100	0	0
W. E. Stuart-Menteth, Esq.	100	0	0
Vincent C. Vickers, Esq.	100	0	0
The Rt. Hon. Lord Aldenham	100	0	0
Mrs. C. W. Sofer Whitburn	100	0	0
Dr. Lilian Watney	100	0	0
John E. Humphery, Esq.	100	0	0
Edward C. Grenfell, Esq., M.P.	100	0	0
Major The Hon. Richard Molyneux, C.V.O.	100	0	0
Lieut.-Col. Robert W. Barclay	100	0	0
Sir Walter Lawrence, J.P.	100	0	0
Fred G. Jonas, Esq.	100	0	0
Mrs. Samuel Courtauld	100	0	0
Robert M. Holland-Martin, Esq., C.B., F.S.A.	100	0	0
Norman Sutcliffe, Esq.	100	0	0
Mrs. Warner	100	0	0
Harold Sutcliffe, Esq.	100	0	0
Albert Levy, Esq.	100	0	0
Mrs. G. Rees-Mogg	100	0	0
"Friends, per A. C. G." (additional)	57	1	0
Mr. and Mrs. E. T. Hargraves	52	10	0
The Worshipful Company of Haberdashers	52	10	0
Sir Maurice Craig, M.D.	52	10	0
Messrs. Wright, Layman & Umney, Ltd.	52	10	0
The Lord Mayor	52	10	0
Lord and Lady Ebbisham	52	10	0
J. F. W. Deacon, Esq.	50	0	0
E. Melville Wills, Esq.	50	0	0
The Most Hon. the Marquess of Anglesey	50	0	0
Sir E. Cooper Perry, M.D.	50	0	0
Charles Lamb, Esq.	50	0	0
Col. Abel H. Smith	50	0	0
Mrs. Gladstone	50	0	0
Marquess of Winchester	50	0	0
Lady Shepherd	50	0	0
W. J. Walford, Esq.	50	0	0
Anonymous	50	0	0
G. W. Potts, Esq.	26	5	0
Hon. Denzil Fortescue	26	5	0
T. J. R. Kiernan, Esq.	26	5	0
Mr. and Mrs. Hubert Carr-Gomm	26	5	0
J. C. Jay, Esq.	26	5	0
Alderman and Sheriff Sir William Waterlow, K.B.E.	26	5	0
A. Wilson-Filmer, Esq.	25	0	0
Kia-Ora Limited	25	0	0
Mrs. St. George	25	0	0
Fred Ash, Esq.	25	0	0
Sir Wm. Hale-White, K.B.E., M.D.	25	0	0
Lieut.-Col. H. C. Fortescue	25	0	0
Edward W. Giffard, Esq.	25	0	0
A. S. Juniper, Esq.	25	0	0
L. Currie, Esq.	25	0	0
Edward S. Baron, Esq.	25	0	0
Messrs. W. R. Millar & Sons	25	0	0
Mrs. Rowlands	25	0	0
"G" (for Purchase of Radium)	25	0	0
Sir Wm. Arbuthnot Lane, Bart., C.B.	25	0	0
Mr. Sheriff W. G. Coxon	25	0	0
John Tyron, Esq.	21	0	0
Sir William Noble	21	0	0
F. G. Dray, Esq., C.C.	21	0	0
Dr. and Mrs. E. P. Poulton	21	0	0
Fred J. Smith, Esq.	21	0	0
Sir George Sutton, Bart.	20	0	0
Oliver Watney, Esq.	20	0	0
A. G. Howitt, Esq.	20	0	0
Sir John E. Gladstone, Bart.	15	15	0
Mr. and Mrs. C. Dougal	15	15	0
Miss C. Gladstone, per A. C. Gladstone, Esq.	15	0	0
Samuel Samuel, Esq.	10	10	0
Henry Van Den Bergh, Esq.	10	10	0
Henry Bateson, Esq.	10	10	0
H. Cecil Rickett, Esq., O.B.E.	10	10	0
James M. Miller, Esq.	10	10	0
David Wardlaw, Esq., and Miss Joanna Jones	10	10	0
A. Egerton Watts, Esq.	10	10	0
R. H. Ling, Esq.	10	10	0
Mrs. Trotter	10	10	0
J. W. Murray, Esq.	10	10	0
Sir George Jessel, Bart.	10	10	0
E. C. Leach, Esq.	10	10	0
H. Tabor Brooks, Esq.	10	10	0
Mr. and Mrs. M. F. Hopson	10	10	0
Mr. and Mrs. A. W. Ormond	10	10	0
Paul Lindenberg, Esq.	10	10	0

	£	s.	d.
Lieut.-Col. F. E. Fremantle, M.D., M.P.	10	10	0
E. A. Umney, Esq.	10	10	0
Dr. R. D. Gillespie	10	10	0
Sir William Seager	10	10	0
Sir Alfred Fripp	10	10	0
F. A. B. Lord, Esq., C.C.	10	10	0
Max Fontheim, Esq.	10	10	0
Cecil Braithwaite, Esq.	10	10	0
Leslie R. Vigers, Esq.	10	10	0
Gilbert Taylor, Esq.	10	10	0
Wigan Richardson Cold Stores, Ltd.	10	0	0
Rt. Hon. Earl Fortescue, K.C.B.	10	0	0
F. J. Tennant, Esq.	10	0	0
General Vesey J. Dawson, C.V.O.	10	0	0
Mrs. Watkins	10	0	0
F. H. Reed, Esq.	10	0	0
Mrs. James Clark	10	0	0
Sir Guy Granet, G.B.E.	10	0	0
Bruce Trinder, Esq.	10	0	0
A. Nettlefold, Esq.	10	0	0
E. H. P. Eason, Esq.	10	0	0
D. H. Gaskain, Esq.	10	0	0
H. L. Grimston, Esq.	10	0	0
C. V. Thomas, Esq.	10	0	0
Hon. Mrs. Trotter	10	0	0
Col. C. W. Trotter, C.B.	10	0	0
A. N. Prentice, Esq.	10	0	0
Wing-Commander Louis Greig	10	0	0
A. H. Dewar, Esq.	10	0	0
Miss J. Arbuthnot	10	0	0
Dr. Morna Rawlins	10	0	0
W. H. Ogilvie, M.Ch.	10	0	0
Smaller Donations	309	9	0
Total	£29,676	0	0

Thoughts after a visit to the Dairy Show.

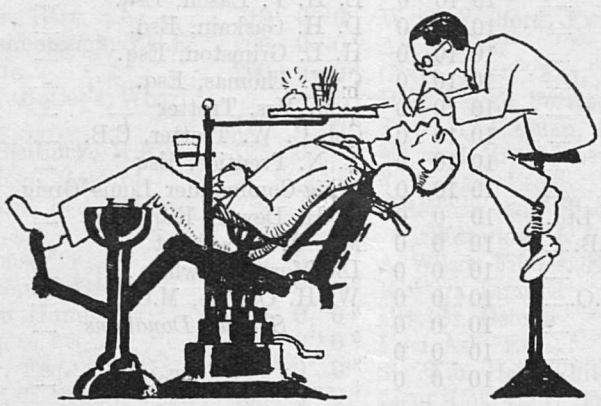
THERE has recently been a cry throughout the land, of "Drink More Milk" a cry fully justified when we consider the appallingly small quantity of this so-called natural and perfect food consumed by the average person. It is estimated that there are about 2,000,000 cows in England and Wales, which produce not more than 500 gallons each of milk per annum, which means that for a population of, roughly, 50,000,000, an average of less than half a pint per diem. How much smaller the figure must have been a few decades ago will be realised when we consider the enormous advances made in dairy farming.

Twenty years ago 800 gallons a year was considered as the maximum output consistent with good health. To-day 3,000 gallons are produced without any apparent detriment, although it is too early to foretell if these animals will breed as well and whether the progeny will equal or excel the efforts of their dams. The change is a result of numerous causes, and the farmer, as well as the consumer, can sincerely thank the recent Governments for generous help in this important matter.

The Ministry of Agriculture and Fisheries has a scheme working for the improvement of live stock breeding. The old adage "A bull is half the herd" expresses the principle involved. There is all over the country societies consisting of a dozen farmers or so who agree to use a pedigree bull approved by the Ministry and kept by one of the farmers, who gets a grant of £20 for annum for the bull. This is sufficient to enable the farmer to procure a sire with a reliable pedigree, and, naturally, "milk" is looked to more than "beef" in the purchase of these animals. The importance of this scheme to the small farmer, a man perhaps keeping four cows, cannot be over-estimated.

About the time of the incorporation of this scheme, the milk recording societies began to be formed in the various counties. Members of these weigh the milk given by each cow at each milking, so that the exact yields over given times are known precisely. Milk recorders pay surprise visits to milking establishments to see everything is in order. This is undoubtedly the most accurate method of knowing the efficiency of a cow and whether she is a desirable one to retain and to breed from. Probably these societies have done more than any one factor to promote larger yields, although one has reluctantly to admit that they are not unmixed blessings. With increase of volume, there is often a decrease of butter fat, or, as a retailer said to me at the Show, "I can tell a man who is recording when I begin to separate, I don't like him."

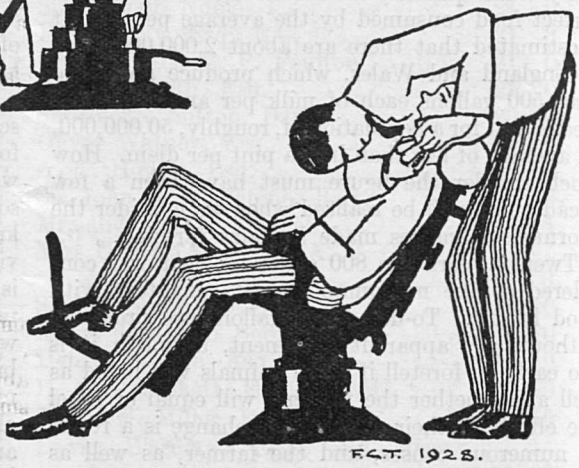
Naturally, with the enormous increase of production, there have been corresponding changes in diet, changes which caused me to insert the words "so-called" before "natural and perfect food" in the opening paragraph. Cows are given rations of protein—or albumin, as the agriculturist



Chopsticks!

The Bulldog Spirit.

"- the light, fantastic toe."



Two long 'uns making the best of it.

The Dental Stance by F. C. T.

prefers it—carbohydrate and fat in accordance with output. Much of this is of necessity artificial, consisting in part of cakes containing from 10 to 15 per cent. of fat, which is used in an endeavour to keep up the fat content of milk to 3 per cent., which is regarded as the minimal requirement. Some breeders go to ridiculous expedients, such as actually giving a cow milk to drink in order to increase her output. It is with some justification that we are sceptical in regarding milk as a natural and as a perfect food.

There are other factors which have aided in the numerical advances, not the least of which is the more hygienic manner of keeping cows. The fresh air craze has spread to the farmyard, and very few animals are now nightly anchored to their stalls, but allowed even in mid-winter to roam in an open yard. This may have been responsible in part for the enormous fall of tuberculosis in cattle and of " surgical tuberculosis " in human subjects.

The dairy farmer is just beginning to realise the need of advertising his goods. From the pamphlets one is asked to peruse one would find it difficult to believe that there were cows and cows. The one outstanding criterion of good milk is the fat percentage. Sugar, protein, mineral salts, vitamins sink into insignificance when compared with fat, which we know to vary from 3 to 6 per cent. in different milks. No information was forthcoming about the other constituents. One society in a handbook states that many cases are on record where infants and invalids, unable to assimilate certain other milks, have thrived on the produce of their particular breed. Many cases are also on record that babies have thrived when cow's milk was diluted with an equal quantity of water. We may perchance in future have to know whether a mother, who has been so unfortunate to have been compelled to wean her baby, is buying milk with a 3 or 6 per centage of fat before advising her as to dilution, etc. Another interesting fact was that cows milked thrice instead of the old-time twice per diem seemed to give a lower percentage of fat.

Leaving the cows for a time, I made a hurried tour of inspection of the machinery, and can express no surprise that several of the dairymaids are Bachelors of Science. No doubt can exist that great efforts are being made to produce and transport clean milk. The prejudice of milking machines to me is as strong as capital levy is to a die-hard. There is no stimulus to a cow's udder so strong as that of a healthy suckling calf, and the milking machine must go a long way yet before it can outdo the human skill of stripping cows and emulate the suckling calf. Many of the scientific inventions, notably the separator, are here for good, but there is ample scope for perfection of the many newer ones.

There is no attempt here to discuss the " beef " side of cattle farming. It does not need much publicity, for farmers themselves eat it, even if at the dairy show they seemed to be doing their business over something else—which was not a glass of milk ! R. E. S.

Day by Day in Addison.

From a Patient's Diary.

Sunday—

I HAD always heard that to be an invalid was to be an autocrat, and that the lightest wish expressed from the sick bed was as good as law. I kept this theory well in mind when to-day, about 1 o'clock, I was admitted to Addison Ward. Having packed my clothes in my pigskin valise, I proceeded to my bed—which, I observed with mixed feelings, bore the number 13—and, hailing a dignified and senior nurse with a black belt and a grave, compassionate manner, requested an appetising lunch without delay. She replied that she was sorry, but that she was just going to tea.

Shortly afterwards, large crowds of visitors invaded the ward—nearly a dozen surrounding every bed save mine—and the small boy next to me was soon being fed with chocolate. At this juncture I was asked whether I required a certificate to say that I was there, but, still feeling tolerably clear on this point, I declined the offer. The small boy was now being fed with banana. Next I was asked whether I had any eggs—an excellent joke, at which Nurse and I both laughed heartily. The small boy was now being fed with potted meat.

After tea a bright religious service was held in the ward, including some exquisite renderings of devotional arias by a soulful soprano. It was good to see the rapt expressions of the nurses as they tip-toed about their unceasing duties.

Later, the small boy asked me to post a card for him in the box provided, and I could not help seeing the contents : " dear mother i was not sick your loving son."

I now requested a warm bath followed by a little dinner, but, unfortunately, Nurse was at tea. At 8 o'clock the illumination failed—and so to sleep.

Monday—

The " roseate hues of early dawn " showed no sign of appearing when our ministering angels began their matutinal bustling, and at 6 o'clock I arose, carolling blithely, and proceeded to the bathroom. There I found a merry throng, whose convivial air was increased by tobacco smoke curling from under the adjacent doors. I gathered that, while smoking was forbidden in the ward, the bathroom was regarded as a club-room for that purpose.

The day was passed uneventfully in complete rest, and, after a refreshing dose of " Hurst Mixture," I sought early repose. My last recollection was of our belted nurse nodding kindly to me on her way to tea.

Tuesday—

I was much impressed to-day to observe the thoroughness and care with which we patients are protected from infection. One of our number having left us, the metal springs and iron framing of the bedstead were most completely sterilised, the mattress being turned back temporarily to enable this to be done. How good it is that no evil germ can come nigh us ! I said to Nurse how good it was, but she said she could not stop just then or her tea would get cold.

Wednesday—

An eventful day to-day. There has been a consultation on my case and my bed was surrounded by distinguished physicians, one of whom seemed very prominent. He addressed many questions to his confrères as to my complaint, but they, for the most part, refrained from replying, being, I supposed, too learned lightly to commit themselves. I gathered from this interlocutor that it will be difficult to complete my diagnosis without an " autopsy," but I feel confident that this will present but little difficulty.

After my examination I asked Nurse at what time tea was served on Wednesdays, whereupon she straightened her belt and moved off hurriedly, as though reminded of something.

Thursday—

To-day my bed was covered with a pink-and-white striped " check " and I was pushed out on to the balcony, my physicians having recommended fresh air. My fellow-patients—numbers 9 to 37—gathered round me eagerly, discoursing and smoking cigarettes. I remarked with satisfaction the instinctive courtesy with which most of them stopped smoking on the approach of a nurse, some even holding their cigarettes behind their backs.

It was exceedingly interesting to look through the lower windows of Shepherd's House at the antics and gesticulations of the lady doctors who work there. (The upper windows held no interest, for the blinds were raised only when the rooms were empty.) One patient, on the second floor, had to be carried to the window and looked very ill indeed. He was so emaciated that he seemed to have no flesh on his bones at all. I was told that his name was Jimmy.

Shortly after this the Massage Sister came out of Shepherd's House ringing an enormous bell—apparently to summon our nurses to their teas.

Friday—

A new patient came to the bed next mine to-day. He is under the care of our smallest doctor, who is much respected and feared by everyone, especially the nurses. He questioned my neighbour severely and I overheard the latter say that he had been in hospital before and had been told that, after his operation, he would be a different man, although really he had never been the same since. After an hour's examination my neighbour asked the doctor if he knew anything, but he did not say that he did.

I was asked to choose the evening hymn to-night, but the choice was difficult, as Nurse only plays hymns in three flats, beginning with T.

Saturday—

Having now spent a week in hospital, I feel great curiosity as to my condition. Fortunately, one of the young head-doctors was walking up the ward with nurse, so I beckoned him and said: " Excuse me, doctor, but what really is the matter with me ? "

He looked a little annoyed, but did not reply, while Nurse, giving me a kind nod, hurried off to the shelter of some screens—I do not know why.

B. Max Protosil,

Notice.

Guy's Hospital Dental School.

NEWLAND-PEDLEY GOLD MEDAL EXAMINATION

The following awards have been made :—

D. S. H. Williams, *Gold Medal.*
C. S. Henderson, *Certificate.*

T. B. JOHNSTON,
Dean of the Medical School.

Guy's Hospital,
October 5th, 1928.

Guy's Hospital Musical Society.

WE should like to remind all Guy's men that early application for tickets should be made, as this would greatly facilitate the work of the Secretaries.

Although the tickets have been on sale for only three weeks, there is every prospect of having a good audience. Most of the applications have, curiously enough, come from people not directly connected with the Hospital, but we hope that this announcement will not pass unnoticed, and that real Guy's men will come and support the Society in its efforts to combine a first-class entertainment with the object of raising funds for Guy's.

Applications for tickets should be made to the Honorary Secretaries :—

GEORGE A. WINSTON,
The Wills Library,
Guy's Hospital.

G. G. ELLIS,
Guy's Hospital.

ORCHESTRA

Orchestral rehearsals have commenced and instrumentalists are required to take part in the *Pirates of Penzance.*

Will all those wishing to join get in touch with G. G. Ellis and let him know the name of the instrument played.

Correspondence.

Guy's Hospital Christian Union.

DEAR SIR,—With regard to the contribution of the Guy's Hospital Christian Union to the Students' Number of the GAZETTE, we should like to make one observation.

Part of the contribution as sent in—the majority, in fact—was thought unfit for publication in the GAZETTE, and in cutting it the only paragraph that was retained, besides a mere notice of a meeting, by itself meant nothing, and actually was purposely refuted and contradicted in the paragraphs cut out. The result could only be a mis-statement of our attitude, which is that too much circumlocution and lack of honest directness frequently does more harm than good by giving an impression of deadness and vagueness.

Therefore, while bowing, sir, to your editorial power, we ask you to give this letter publicity that any misconceptions arising from the statement in the Students' Number may be corrected.

Yours truly,
F. H. STEVENSON,
Hon. Sec., G.H.C.U.

[We are very sorry if our truncation of the article in question involved a misstatement of the position of the Christian Union, but, after careful consideration, we felt that the deleted matter was more suitable for the meetings of the Union itself than for publication in the Gazette.—ED.]

The ordinary meetings of the Christian Union will this term be held from 5 to 6 p.m. on Fridays in a room kindly lent by the Chaplain. This is reached by entering the middle door of the right hand side of the Quadrangle—right hand as one comes into the Hospital from St. Thomas's Street—turning immediately sharp left and going through the door at the end of a short corridor.

All Guy's men will be extremely welcome at these meetings.

English Folk Dances and Folk Music.

DEAR SIR,—May I trespass on some of your valuable space to make an announcement ?

It has been suggested that a society, somewhat of a social nature, should be started in order to enable all members of the Hospital, whether members of the staff or students, to meet and join in English Folk Dances and Folk Songs.

Teams could be formed to dance at the various festivals, and occasional demonstrations could be given.

If a sufficient number are interested, the society will apply to the Musical Society to be affiliated.

I shall be pleased to receive the names of any of those interested in the movement either in writing or by personal application.

Yours truly,
J. MAURICE LEA.

Medical School,
Guy's Hospital, S.E.1.
October 29th, 1928.

Sport.

Rugby.

Guy's v. Gloucester.

ON Saturday, October 13th, Guy's visited Kingsholm and were beaten by 3 goals and 5 tries (30 points) to 2 tries (6 points). Owing to injuries we had to rearrange the back division. At full back Kennedy made his first appearance this season, A. J. D. Lewis moved to left centre in place of F. H. B. Spence, and Leslie completed the three-quarter line. Myburgh was playing in Germany and his place was filled by L. Brown. On the other hand, Gloucester fielded a strong side, which included M. A. McCanlis, the old Oxford Blue.

It was an ideal afternoon and the exchanges during the first half were fairly even. From the kick-off, the home forwards distinguished themselves with a loose rush, and D. Stephens, with a clever pick up and punt to touch, sent play to our 25. Carrying a scrum the Gloucester forwards carried the ball over our line, but we were able to touch down. Securing the ball in the loose, D. Stephens sent McCanlis away, the latter making plenty of ground before passing to J. Stephens; after an exchange of passing with James, the Gloucester centre crossed our line for a fine try, which Boughton failed to convert.

From the restart some fast play took place in mid-field; both sets of backs took part in some neat handling, but little progress could be made. Securing the ball from a scrum, J. Stephens passed to James, who, after shaking off an opponent, scored a good try in the corner. The goal kick was again missed.

Guy's restarted with vigour and a fast dribble threatened danger. However, McCanlis intercepted a pass and running strongly, punted to touch in our 25. For a time we were severely pressed, but Windsor Lewis cleared with an excellent kick to touch. Our threes took part in some clever passing and a cross-kick by Leslie placed the home line in danger. Only a hard tackle just outside saved the situation and Hemming touched down. Following this Guy's kept up the pressure and for a time the home side were on the defensive. An excellent movement by our threes was spoilt by a bad pass to the wing. From a cross-kick by D. Stephens, Guy's gained possession, but, after good progress had been made, a forward pass spoilt the movement.

Windsor Lewis secured from a scrum, cut right through the opposition and, when faced by the full back, he short punted, but Boughton relieved. Ryan then broke away and after shaking off J. Stephens ran strongly for about 30 yards before passing. After a series of sharp exchanges, Hogbin crossed for a good try, which he failed to convert.

Soon after, Eustace was hurt in tackling D. Stephens and had to retire with a damaged knee. Gloucester at once attacked and we were compelled to touch down. From a scrum near our 25 the ball was carried past Kennedy. A cross-kick sent it over the line and Hemming being well up scored the third try for Gloucester.

Half-time arrived with the home side leading by 9 points to 3. Although Eustace resumed after the interval, he had to retire within five minutes of play, and Clarke was taken from the pack to work the scrum.

Although playing a man short Guy's exerted heavy pressure, and after a strong run by Ryan, Windsor Lewis broke through nicely. When tackled he passed to Durr, who shook himself free twice and crossed with a fine try wide out. Hogbin was unable to add the extra points.

From this point the home side dominated the play, and their threes gave a dazzling exhibition of handling. Several times they were all but over when J. Stephens broke away and, passing to James, the latter crossed our line in a good position.

Keen play in the centre followed, and from a scrum the Gloucester forwards heeled and the ball came out to McCanlis. The old Oxford Blue, running at top speed, cut through our centres and rounding Kennedy scored near the post, for Boughton to convert. Flushed with success Gloucester renewed the struggle with increased determination. James cleverly intercepted a pass and, having a clear field, raced home easily, for Boughton to add the extra goal points. More brilliant work by their backs led to James scoring his fourth try, which was not converted.

Although down so badly Guy's fought back pluckily, and Popplewell distinguished himself in a long run which should have resulted in a score, but a pass went wrong near the line. Near the end, and after a desperate forward burst, Davies crossed for Gloucester, and Boughton landed a splendid goal.

Guy's were not beaten on the play to anything like the extent which the score indicates, but Gloucester's form in the second half when the Hospital were without their scrum half was irresistible. Our forwards never gave up trying, and on several occasions experienced hard luck in not adding to our score. Popplewell, Durr and Hogbin were very fast and keen on the ball and

never gave up trying, whilst Kennedy made a useful debut at full back.

Guy's Team—F. F. Kennedy; T. G. Robinson, A. J. D. Lewis, D. F. Ryan, W. Leslie; R. J. Eustace, Windsor H. Lewis; J. R. F. Popplewell, J. Durr, R. A. P. Hogbin, T. Morgan, A. R. Clarke, D. S. Clogg, J. C. T. Tregarthen, L. Brown.

Guy's v. Bristol.

THIS match was played at Honor Oak Park on Saturday, October 20th, and resulted in a win for the visitors by 1 penalty goal and 3 tries (12 points) to 0.

After a morning of heavy showers the weather cleared before the game started. Although slippery on the surface the ground was in good condition, and the drainage put down last year appeared to be working well. Eustace, who was injured at Gloucester, was unable to play on account of appendicitis. Kennedy and I. K. Thomas were brought into the three-quarter line for the first time this season, whilst Hutchinson and Myburgh resumed their places at full back and in the pack respectively.

Bristol brought a strong side to town and thoroughly deserved their win. They were stronger than the Hospital in all departments. Tucker led his forwards with rare skill, and the Hospital pack being considerably lighter than the visitors, Myburgh was unable to get the better of Tucker in the hooking duels.

At half back Carter and Stinchcombe proved very elusive, and with the forwards heeling the ball regularly they were able to give Locke and Burland numerous chances of showing their abilities.

At full back Browne, the English International, played a very sound game for Bristol, but Hutchinson ran him very closely and kicked with excellent judgment.

Guy's kicked off against a strong sun and breeze. Bristol at once attacked, but Ryan relieved with a good kick to touch. After Guy's had made headway well inside the visitor's half, Durr was penalised for offside, and Burland tried a goal kick, but missed. Stinchcombe intercepted a stray pass and, running strongly, passed to Whitby, to enable Locke to cross our line in a good position. Burland failed to add the extra points.

From the kick-off Burland secured from a scrum and found touch in our 25. Guy's were penalised for offside, and Burland scored with a splendid kick.

After our threes had participated in a good round of passing, Browne for the visitors and Hutchinson for Guy's distinguished themselves with some excellent kicking and touch finding. Offside against Bristol near the centre nearly brought a score to Guy's, but although straight Hogbin's kick at goal fell just short. A mark by Kennedy, followed by a breakaway between Lewis, Ryan and Kennedy carried play to Bristol's 25, where the latter was thrown into touch.

The Bristol pack then made a splendid effort, and with a sweep from near their goal line carried the ball to our 25. In trying to clear Clarke miskicked, and after some snappy passing the ball came to Locke, who scored in the corner, Burland failing to add the goal points.

Before the interval both Lashmore and Howell were slightly hurt and had to retire to the touchline; however, they were able to resume after the interval.

From the kick-off Durr obtained a mark, but Locke held the return and found touch. Windsor Lewis broke through on his own, but Browne secured and fielded the ball to mid-field.

Hutchinson then saved splendidly when faced with a strong Bristol forward rush. Keeping up the pressure on our goal line, Bristol forced several scrums, and the Hospital did very well to keep the visitors out.

Burland found touch, and Whitby, receiving from the line-out, raced away on the wing, only to be thrown into touch by Hogbin in our 25. Windsor Lewis relieved with a hefty kick, and offside against Bristol enabled Durr to drive Bristol back to their own territory.

Immediately following a scrum Stinchcombe snapped up a pass from Carter and quickly sent the ball to Locke. At the right moment it was transferred to Whitby, who accepted when running at top speed and scored a spectacular try in the corner, which was not converted.

Bristol continued to press, and only individual efforts by Lewis, Ryan and Morgan temporarily carried play to the visitor's quarters.

Guy's Team—J. C. Hutchinson; T. G. Robinson, D. F. Ryan, I. K. Thomas, F. F. Kennedy; J. Howell, Windsor H. Lewis; J. R. F. Popplewell, W. H. Myburgh, J. Durr, R. A. P. Hogbin, T. Morgan, G. F. Lashmore, D. S. Clogg, A. R. Clarke.

Rowing Club.

THE Annual General Meeting of the above Club was held on October 15th, with Mr. Mollison in the Chair. The following officers were elected for the season 1928–29.

President—

R. Davies-Colley, Esq., C.M.G., M.Ch.

Vice-Presidents—

Herbert French, Esq., M.D.

A. J. McNair, Esq., M.B., B.Ch.

W. M. Mollison, Esq., M.Ch.
J. H. Ryffel, Esq., M.B., B.Ch.
Honorary Vice-President and Coach—
Hylton Clever, Esq.
Captain—G. G. Ellis.
Hon. Secretary—F. H. Stevenson.
Committee—Messrs. J. H. Richmond, G. A. Dingemans, R. J. Wheatley, W. J. Wheatley, E. B. Carpenter, P. V. Reading.

The above Club is affiliated to the London Rowing Club and has the use of that club's premises, boats, etc. The London Rowing Club are allowed the services of any Guy's members willing to row for them.

New members, who must be members of the Clubs' Union, will be welcomed and helped by the captain, secretary or any member of the Committee.

Hospital Information, etc.

Pass List

SOCIETY OF APOTHECARIES
October, 1928
Forensic Medicine
M. H. Rashwan

Appointments.

Allen Coulter Hancock, M.C., M.B., B.S., M.R.C.S., L.R.C.P., D.P.H., D.P.M., Medical Superintendent, Kent County Mental Hospital, Maidstone, Kent.

Astley V. Clarke, appointed Lieutenant of Leicestershire.

R. J. Gibbings, appointed Dental Member to the First Medical Council of Southern Rhodesia.

Change of Address.

Cecil G. Siggs, Medwyn, Dorking. 'Phone: 332.

Dr. H. S. Gaussen, 197, Southwark Bridge Road, S.E.1.

Miss F. Edwards, King Edward VII Hospital, Paget, Bermuda.

Dr. Albert Reeves "Hendred," Epsom Lane, Tadworth.

R. D. Gillespie, 25, Upper Wimpole Street, W.1. 'Phone: Mayfair 1627.

C. Lambrinudi, F.R.C.S., 13, Gloucester Square, W.2.

Astley V. Clarke, 19, Victoria Road, Leicester. 'Phone: 952.

Dr. Allan C. Hancock, Barning Heath, Maidstone.

A. L. Hodgkinson, L.D.S., 66, South Street, Ilkeston, Kent.

E. Emerson Gibson, L.D.S., 10, Crowe Street, Stowmarket, Suffolk.

P. C. P. Ingram, "Brendon" View, 9, Stow Park Avenue, Newport, Mon. 'Phone 2628.

J. L. Stewart, Umtali, Southern Rhodesia.

R. F. Prichard, 8, Castle Street, Farnham, Surrey.

Roland Hofmeyr, 33, Adderley Street, Cape Town, South Africa.

Miss J. Dudeney, "Verulam," 23, Warnham Court Road, Carshalton, Surrey.

F. Popper, L.D.S., 18, Wimpole Street, W.1. 'Phone: Padd. 2241.

Papers by Guy's Men.

M. Shaw, M.R.C.S., L.R.C.P. Uræmic Paralysis Following Scarlet Fever, *British Journal of Children's Diseases*, 1928, xxv, 191–197.

Arthur F. Hurst, F.R.C.P., and Prof. M. J. Stewart, F.R.C.P. Jejunal and Gastro-Jejunal Ulcers: II, Symptoms and Diagnosis (Illustrated), *Lancet*, 1928, ii, 805.

Allom Berry, F.R.C.S. Gangrenous Appendicitis in a Nonagenarian, *Lancet*, 1928, ii, 812.

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Birth.

HOFMEYR—On September 7th, 1928, in Cape Town, to Lilian, wife of Roland Hofmeyr, L.D.S.—a son.

Deaths.

SMYTH—Mary Philomena Smyth, Claremont House, Harold's Cross, Dublin, as a result of a motor accident at Stillorgan, Ireland, on August 19th, 1928.

CANN—On October 3rd, 1928, of F. M. Cann, M.R.C.S., in his 91st year, at 4, River Bank, Putney.

Guy's Hospital Gazette.

(ESTABLISHED 1872)

A Journal of Hospital News, Medicine, Surgery and Dentistry

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EDS. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLII. *November 17th, 1928.* *Number 1052*

PASSIM

A FORTNIGHT which included Guy Fawkes day and a Going-Off Dinner would have been fiery enough without the flare-up in the Massage Building. The ancients were apt to regard such a strange sequence of events as full of foreboding and at once called in the local Old Moore for a prognosis as to the probable date of an inevitable earthquake. The advent in the near future of those " strange screams in the air " that accompany the Nigger practices should complete for the old hand at the Hospital a portent of yet another imminent upheaval. There are many ominous signs obvious enough to the experienced observer. The Ward Sisters, for instance, wear a worried look, coming events are casting heavy shadows beneath their lower lids ; they scurry, as if haunted, to their evening bath. Can it be that their celibate morale is shaken by the recent riot of engagements within their ranks ? Surely not, for they remain in the same trance-like condition on rounds, and even when at lunch. Moreover, their private sitting rooms cease for a space to be the public meeting place of all who have business in their wards. Entrance becomes a closely guarded privilege, while within these now sacred shrines the usual snug tidiness has given way to a litter of coloured paper scraps, no doubt connected with the ceaseless snipping that comes all day long from behind the closed doors. When checking the evening draught, weird wire contraptions tumble on our heads from the upper shelves of the linen cupboards, while patients who are handy with scissors seem to take longer to get well than those who are not. There is at the same time an element of rivalry in this almost universal effort. The whole business may well seem queer, but those among us who have seen it before are not alarmed. These are the prodromal symptoms of an acute exanthem with a marked seasonal incidence. The rash will probably break out suddenly on December 24th.

Appeal and exhortation are so frequently our lot that you may well wonder if on this occasion we shall manage to forego the pleasure of what is fast becoming a habit, but having beaten so long about a bush that is rapidly taking the shape of a Christmas Tree, we will delay no further and strike almost before the ink is dry on the minute book of the Landon Tea Fund Committee and at the same time before your pockets are emptied by the other calls of the approaching festivities. The Borough's biggest bun fight has to be heard to be believed. Those who have plugged their ears and ventured to the Out-Patient Hall on past occasions will not need to be reminded that a subscription to this Fund is almost the *sine qua non* of an easy Christmas conscience, while Sister Out-Patients will welcome gifts of toys of any description for the central feature of the show. The uninitiated should take steps at once to remedy their sad deficiency. They will find it more than worth while.

THOSE who saw the excellent Harvey Tercentenary Celebration Film exhibited in the Physiological Theatre on November 2nd will recall the ingenious use the producer made of Cornelius Jansen's fine portrait of the founder of modern physiology. We learn from Dr. Fawcett that only after considerable deliberation and the making of elaborate arrangements for the safety of this valuable picture was it allowed to leave the Royal College of Physicians, London, whose officials were reluctant to release it from their personal care even for such an important purpose as the preparation of a kinematograph film dedicated to Harvey's own work.

There are very few comtemporary portraits of William Harvey in existence, and in this connection the authorities of St. Mary's Hospital are to be congratulated on their recent capture at a sale of old masters from the ancestral home of the Derings, near Maidstone, of a picture that may well prove a priceless possession in the future. It was known that Harvey's niece married a Sir Edward Dering in 1648 and that American agents would be present in force to bid large sums for the other pictures, mostly Lelys and Knellers. On the staircase hung a portrait of Dr. Harvey, who, on inspection, could be none other than *the* Dr. Harvey. Although American collectors have been extremely anxious for some time to secure such a portrait and were prepared to put up large sums in the event of one coming into the market, their agents fortunately failed to recognise the true nature of the picture on the stairs, and did not even bid for it. The price paid in consequence was 38 guineas, a " middling " sum, of which the modest Harvey himself would, no doubt, approve.

▭

The P.R.D. card has been, and can be, such a very useful thing that we learn with regret how often recently this system of checking one's own diagnosis by reference to a more qualified opinion has broken down. After all, there is ample opportunity for cards to go astray on their complicated course to the Out-Patient Department and back again, while we feel sure that there is no need to remind members of the Staff that to the dressers one card in the Surgery Box is worth dozens in the waste paper basket. On many occasions no doubt the initial treatment is so successful that patients fail to put in a second appearance, and we are certain that if a courteous request for an opinion, together with an attempt, however inadequate, at a diagnosis is made on the back of the card, care being taken to avoid the tear-off corner, disappointments will be few and far between.

▭

We should like to offer our heartiest congratulations to Dr. Harold Selby, who was married at Cheltenham on November 8th. As a House Surgeon, and as combined author, composer and producer of two of the most successful Residents plays within memory, H. J. S. can look back on his hospital career with the utmost satisfaction ; we are certain that the future holds an almost equal happiness in store.

▭

Mr. O. Plowright has been elected President, and Mr. J. R. Rickett Vice-President, of the Residents for the three months November 16th–January 16th.

The Toxic Effects of Salvarsan and its Substitutes.

A Clinical Lecture by V. E. Lloyd, Esq., August 20th, 1928.

GENTLEMEN,—Toxic effects from the administration of organic arsenical compounds in the treatment of syphilis have become well known since these remedies were first introduced nearly 20 years ago.

The earliest of these preparations, atoxyl, has been abandoned for many years in the treatment of syphilis on account of the frequent production of toxic amblyopia, due to the effects on the optic nerves. Arsacetin fell into disfavour for its harmful effects upon the renal tissue.

Salvarsan (606), which was introduced by Ehrlich in 1910, was soon found to be toxic, so toxic, in fact, that numerous fatalities were reported following its use, a result which led to a special inquiry, by the German Government, into the processes of manufacture and administration of this compound.

As the result of numerous experiments to reduce the toxicity without detracting from the efficiency of these arseno-benzol preparations, Ehrlich produced neo-salvarsan (914) a few years later. This preparation, although perhaps slightly less efficient in its anti-syphilitic action, had the advantages of being less toxic and infinitely more simple to prepare and administer.

You are familiar with a compound almost identical with neo-salvarsan under the name of Novarsenobillon, referred to briefly as N.A.B., which is used extensively at this hospital and elsewhere. Other compounds of this class closely akin to Neo-salvarsan are Neo-kharsivan, Neoarsphenamine and Novarsenobenzol ; they are known collectively as " 914 " preparations—their toxicity and action in syphilis are identical.

Since these preparations are difficult to prepare in a pure state, and as their toxicity does not depend entirely on chemical constitution, certain preparations are necessary before they are issued by the manufacturers. Every batch of these compounds, of the salvarsan and neo-salvarsan type, manufactured in this country are submitted to chemical and animal toxicity tests by the Ministry of Health before they can be sold. On any box of Novarsenobillon used in this Hospital you will note a small label expressing approval by the Ministry of Health.

Table I.

TOXIC EFFECTS OF ORGANIC ARSENICAL COMPOUNDS

(1) LOCAL TOXIC EFFECTS

Due to the solution entering the subcutaneous tissues.

(2) GENERAL TOXIC EFFECTS

A—Not Due to the Arsenical Compound—

(i) Endotoxic or Herxheimer effect;
(ii) Water Fever;
(iii) Syncope from fear.

B—Due to the Arsenical Compound—

(i) Immediate: Vaso-motor reaction;
(ii) Early, 12–72 hours: Alimentary: Nausea, vomiting, enteritis, jaundice mild; Cutaneous: Various rashes; Nervous: Encephalitis hæmorrhagica; Urinary: Albuminuria.
(iii) Delayed (up to 6 months): Severe jaundice; Exfoliative dermatitis; Neuritis.

All ampoules bear a batch number, so that in the event of any marked toxic effect the whole batch can be recalled and withdrawn from use; this is the reason for recording the batch number on each patient's report sheet in the V.D. Department whenever Novarsenobillon is injected.

LOCAL TOXIC EFFECTS

The majority of these arsenical preparations must be given intravenously on account of the pain and swelling which follows an injection given by the subcutaneous or intramuscular route. If, during an intravenous injection, any of the solution is allowed to penetrate the subcutaneous tissues a painful swelling will follow, which increases in size during the next 24 hours; the extent varies with the quantity of the solution so introduced.

This local reaction may be so severe as to cause sloughing of the subcutaneous tissues and skin.

Treatment—

Immediate cessation of the injection and withdrawal back into the syringe of as much solution as possible. Local injection of saline to dilute the drug or, better, of a 10 per cent. solution of sodium thiosulphate to neutralise its effects. Fomentations and later dressings to the arm will be required.

GENERAL TOXIC EFFECTS

A—Not Due to Arsenical Compounds

(i) *A slight reaction consisting of headache, nausea, associated with pyrexia of mild degree is not uncommon from 6–12 hours after an injection—*

This occurs chiefly in the secondary stage of syphilis, and is considered to be the effect of toxins liberated by the destruction of enormous numbers of spirochætes; it is known as the endotoxic or Herxheimer reaction, and was first observed after the use of mercury.

This reaction follows the first injection, and is rarely repeated after further injections.

(ii) Water Fever—

This is a reaction due to protein derivations from dead bacteria in the sterile water used for preparing solutions. The reaction, which consists of pyrexia, frequently a rigor, half an hour after treatment, is now very uncommon, but was frequently experienced when a large quantity—200–300 c.c.—of water was used as with Salvarsan.

(iii) Syncope from Fear—

This may follow any type of injection—*e.g.*, vaccine injection.

B—Reactions Due to Arsenical Compounds

(i) Immediate—

The vaso-motor or nitritoid crisis, which is one of the commonest of reactions, is immediate and dramatic. The onset in many cases is towards the end of an injection, and the patient may "fall off the syringe." In others it occurs shortly after the injection is completed. The reaction is characterised by a sudden syncope, with little or no warning. Pallor is followed by cyanotic flushing well marked in the face and extremities; there may be slight œdema of the face and tongue. The pulse is slow, pupils dilated and blood pressure may be very low. The syncope is usually transient, but, exceptionally, may last for 30 minutes.

An increasing pulse rate, followed by vomiting, precedes recovery; there is often a complaint of præcordial distress and dyspnœa.

Such reactions are usually not repeated, but subsequent injection should be of minimal dosage to verify this.

Formerly, this vaso-motor reaction was considered to be of anaphylactoid type, but this view has been discarded. At the present time colloidal changes in the blood serum are held to be the immediate factor resulting in the intra-vascular agglutination of erythrocytes especially in the capillaries of the lungs, where small emboli may

be formed. The experimental poisoning of animals with large doses of salvarsan results in agglutination and hæmolysis of erythrocytes and of precipitation of the drug in the capillaries.

For the prevention of these reactions all solutions injected must be freshly prepared, should not be shaken, and must be injected slowly. The injection of atropine, gr. 1/50, prior to an arsenical compound is a successful prophylactic measure, as also is the daily administration, by the mouth, of ephedrine, 50 milligrams daily, during treatment.

When a reaction has ensued the injection of 1 c.c. of 1 in 1000 adrenalin hydrochloride is usually efficacious.

(*ii*) *Early Reactions* (*up to* 48 *hours*)—

On the evening of the day of injection a small percentage of patients experience slight malaise, giddiness and nausea with or without subsequent vomiting, from which they recover by the next day. This minor toxic effect may be more severe or prolonged, resulting in enteritis or mild and transient jaundice.

The administration of 1 oz. of glucose orally half an hour before injection is an excellent prophylactic measure which has been widely used.

Generalised cutaneous reactions of erythematous, papular or macular, type are not uncommon. Whilst usually transient, they are liable to be repeated after further injections; these eruptions most commonly appear after the second or third injection of an organic arsenical compound, and are to be interpreted as a definite idiosyncrasy to arsenic, necessitating the greatest caution in subsequent treatment. This should not be resumed until two to three weeks have elapsed and minimal injections should be administered on the first two occasions. Herpetic lesions are infrequent; herpes labialis may develop, which also must be regarded as a warning.

Toxic effects on the kidneys are rare; transient albuminuria with a few casts may occur; you should remember that any damage to the kidneys is more likely to be the effect of mercury or bismuth, which probably is being administered also, than of the arsenical compound.

Encephalitis hæmorrhagica is a very uncommon but very fatal complication of arsenical therapy, which occurs 2–5 days after an injection, usually the second or third.

The patient complains of headache, often very intense, some hours after the injection. Within 24 hours there is some pyrexia, occasional vomiting and the headache persists.

Epileptiform convulsions follow, after which the patient becomes comatose; the epileptiform attacks recur, often becoming more frequent, and, finally, deep coma ensues, from which the patient rarely recovers.

The majority of cases have occurred in young adults suffering from syphilis in its primary or secondary stage; in some cases slight signs of intolerance to arsenical compounds have been exhibited after the earlier injections.

No gross pathological changes can be found *post mortem* in these cases; microscopical hæmorrhages are seen in the brain, most marked in the pons and basal ganglia; in severe cases hæmorrhages are found in the brain, liver, spleen and kidneys.

The experimental production of encephalitis hæmorrhagica in rabbits by the injection of large doses of salvarsan tends to disprove the suggestion that this condition is a variety of acute cerebral syphilis. It has also been suggested that this condition may be a syphilitic reaction of Herxheimer type, but it can be produced in non-syphilitic animals.

Most of the evidence indicates that encephalitis hæmorrhagica is due to poisoning by the arsenical compound used.

Treatment is usually of little avail; an immediate lumbar puncture should be carried out and 30 c.c. of cerebro-spinal fluid withdrawn. Venesection may help, also the intravenous injection of a solution of sodium thiosulphate. Immediate trephining has been carried out, but with unsuccessful results.

(*iii*) *Delayed Reactions* (*Jaundice*)—

I have already pointed out that the jaundice which ensues after the few injections of an arsenical preparation is of brief duration and never intense.

But another clinical variety of jaundice is met with, which occurs some time after a series of injections has been administered; this is both severe and prolonged. It is termed late jaundice in contra-distinction to the early jaundice referred to above, and may be delayed as long as six months from the end of the arsenical treatment.

The incidence of this late jaundice, which is well under 1 per cent. of cases, varies to some extent with the amount and frequency of the arsenical compounds utilised.

This toxic effect is characterised by the sudden onset, with little or no preliminary malaise, of intense jaundice. Pyrexia is slight; the liver is enlarged and tender, but the spleen is rarely palpable. Bile is easily detected in the urine. In the majority of cases the patient does not feel very ill, and the jaundice disappears after several weeks.

The van den Bergh reaction has shown that the bilirubin content of blood serum is greatly raised in cases of late jaundice.

By the routine testing of blood serum of cases undergoing anti-syphilitic treatment, it has been found that the bilirubin content is frequently in

slight excess in cases who have no signs of jaundice; the immediate cessation of arsenical treatment is usually efficacious in avoiding the development of jaundice.

In these cases of latent jaundice other hepatic function tests such as the galactose tolerance test or bromosulphalein test will reveal hepatic insufficiency.

Acute Yellow Atrophy of the Liver—

This fatal condition is occasionally the termination of cases of severe late jaundice caused by arsenical treatment. It is, however, not met with exclusively in cases who have received arsenical treatment; the condition has been noted in syphilitic jaundice where arsenical preparations were not used, also it was not infrequent during the war in cases of industrial poisoning from tetrachlorethane and trinitrotoluene (T.N.T.).

After a brief period of intense jaundice, signs of acute hepatic insufficiency develop. Fever with rigors, vomiting and delirium ensue and, later, the patient dies in coma. The most marked post-mortem change is the great diminution in the size of the liver, which is in a condition of acute necrosis, with scattered areas of hæmorrhage and of a deep yellow colour.

Exfoliative Dermatitis—

Another important delayed effect of arsenical poisoning is a severe generalised cutaneous eruption known as exfoliative dermatitis.

As in the case of late jaundice, the onset of this condition is delayed; it usually takes place one to three months after the end of a series of injections, and may, of course, appear during a second or third course of treatment.

This toxic effect begins as a generalised erythema of scarlatiniform or morbilliform type, in which irritation of the skin is prominent.

There is a slight infiltration of the skin, some malaise and headache; pyrexia is of mild degree. In the milder cases the erythema soon subsides, and only the superficial layers of the skin are exfoliated in the form of very fine branny scales.

In the more severe cases the erythema becomes deeper in colour and confluent over large areas; infiltration of the skin may be very marked. Vesicles or bullæ form and rapidly rupture, producing areas of acute weeping dermatitis, with marked redness of the skin; exfoliation and scab formation from the drying of the exudate are prominent. The whole body may be uniformly affected; the condition is usually most marked in the axillæ, groins, popliteal spaces, ears and scalp.

Secondary infection frequently occurs, especially in the axillæ. The main complications are abscesses of the axillary and inguinal glands and broncho-pneumonia; if œdema of the lungs supervenes, the case usually ends fatally.

Slight jaundice or albuminuria may be noted in the severe cases.

Treatment—

A warning is frequently given of the patient's susceptibility to cutaneous toxic effects by the occurrence of a mild evanescent erythema following one of the first few injections of an arsenical compound.

In such cases the intervals between injections should be longer than usual, and only moderate amounts given.

Any further signs of cutaneous eruption of toxic type should be carefully looked for and, if present, should lead to the cessation of arsenical treatment.

When exfoliative dermatitis has developed no further injection of arsenical compounds should be given for at least 12 months, and never again in the severe cases.

Daily intravenous injections of sodium thiosulphate, 0.6–0.9 grammes, must be given. Local dressings are indicated with Lotio Calaminæ or Ol. Olivæ.

The process of exfoliation may last for many weeks, and may be subjected to relapses.

Arsenic can be detected in portions of desquamated skin by delicate tests; after the daily injection of sodium thiosulphate the amount of arsenic in the scales is rapidly reduced; it is probably excreted as a sulphide.

Toxic Nephritis—

Damage to the kidneys is rarely met with in cases treated solely with arsenical compounds; Albuminuria with tube casts may occur; this usually disappears on the cessation of treatment.

Severe nephritis with œdema and albuminuric retinitis has been reported in a few cases.

In fatal cases of salvarsan poisoning well marked parenchymatous degeneration of the renal tissue is usually evident.

Toxic Effects on Nervous Tissues—

Optic neuritis was not infrequent after the use of some of the earlier arsenical compounds, notably atoxyl.

It is exceptional after the use of the neo-salvarsan preparations, but during the last few years has been reported to have followed the administration of tryparsamide.

A few cases of polyneuritis have been reported; wrist-drop or foot-drop of mild character occurs, which recovers quickly.

Having drawn your attention to the various toxic effects that may be encountered during the treatment of syphilis with arsenical compounds, I will now discuss what precautions you should

take in order to avoid these reactions as far as possible.

You will realise that absolute sterility of the apparatus and solutions used is essential. All solutions of arsenical compounds must be freshly prepared, and should neither be warmed nor shaken; all solutions must be perfectly clear. Exposure to the air or shaking to effect solution is liable to result in oxidation of the compound, with the formation of amino-hydroxyphenyl-arsenoxide.

This derivative of salvarsan, usually known as "Arsenoxide," was considered by Ehrlich and many others to be the cause of the majority of the toxic reactions.

The formation of this compound can be avoided by the precautions already considered.

For similar reasons, preparations which are out of date or discoloured, or in cracked ampoules, should not be used.

These compounds should be administered at intervals which vary with the particular preparation or amount administered; in general, a normal dose—*e.g.*, 0.6 gramme novarsenobillon—is given at intervals of 7 days. No injections should be given within two hours of a heavy meal.

In conclusion, I must point out that the state of general health of the patient is of great importance.

These preparations should not be given during the course of any acute illness.

Certain chronic affections are also contra-indications for their administration—viz., hæmophilia, exophthalmic goitre, Addison's disease, severe pulmonary disease; also cirrhosis of the liver, jaundice and chronic nephritis when not entirely of syphilitic origin.

Firedell's Fire.

By a Nigh Witness

AT noon, on November 4th, the Borough lay hushed in a Sabbath calm. In the Hospital all was peace. Patients ate their mince or cold meat with sleepy thoughts of coming visitors. Nurses, in the Home, nodded over the week's copy of the *Sunday Circle*, and students, in the College, prepared to get up.

A horrible, miserable, gloomy, peaceful day!

Suddenly, as from a battery, black smoke belched forth from a window in Shepherd's House, followed quickly by a porter, belched from the Colonnade, and two young doctors belched as from the College. Then came a rare old uproar, we can assure you. Bells rang out in the College, bells rang out in the Home, bells rang out on the engines, and belles sprang out of beds. These last were the pick of the night division—and what a fate was theirs!

Locked in with the fire by iron gates, they cried for rescue. "Sister, Sister!" they called, beating the bare walls with their bare hands, "Rescue, rescue!" and then, as an afterthought, "Please!" they shouted. For 10 minutes they struggled at the gates, while the fire grew ever less —though they were not to know this—when suddenly there burst upon them, strolling calmly to their succour, Sister Doro-hy. Aghast at her serene example, they flattened themselves against the corridor walls, while she, dressed in a hat and coat and, as the poet sings:—

"A powdered nose,
Invisible hose,
And a pair of bedroom slippers,"

slowly unlocked the gate to liberty.

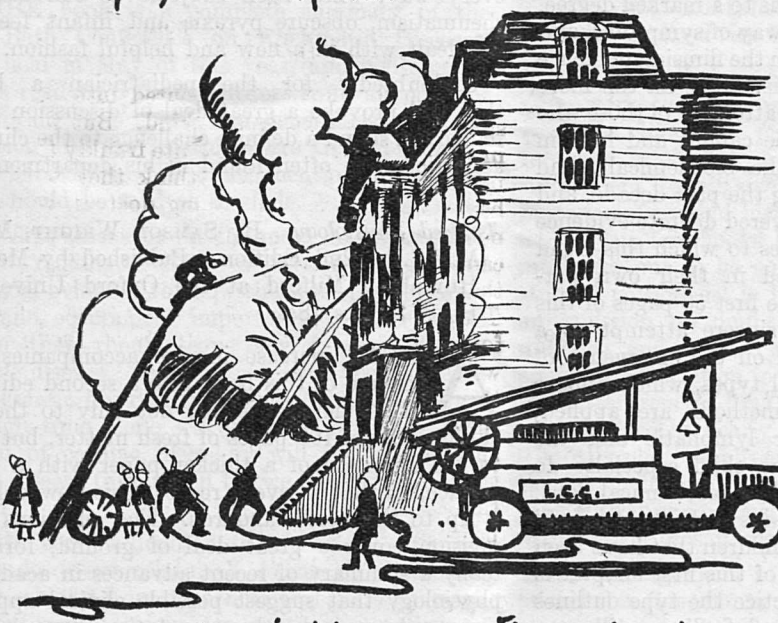
Meanwhile, fire engines poured into the Park, spreading hose of a grosser kind. But were they in time? They were not! Quite frankly they were not in time. For, if you think they were, you have forgotten the two young doctors, who were not wasting the precious moments. Armed with cans, tins, sand, water, soap—anything on which they could lay their hands—they fought that fire. *They* wanted neither helmets nor hose. Enough for them to know that the bones of Thomas Guy were lying in his coffin and that Mr. Eason—but this was no time for dallying. Soot covered them; they did not care. Flames spat at them; they spat back. Anything that that fire did not know, these two young doctors taught it. By the time the leading firemen had arrived the fire was in a position to be mastered. Let us see what was happening elsewhere.

You know what people are. No sooner is there the slightest rumour of a fire than everyone must poke his nose in. All points of vantage were crowded—Colonnade, balconies, park and home were crammed with spectators. But who is this dignified lady stepping among her girls, hand to hair? Can it be Sister D-ra?

GUY! GUY! GUY!

Remember, remember!
the 5th of November!

On Saturday. Nov 3rd. masses of bacteria clustered round the external orifices of the Hospital



to honour the memory of the famous Light and Heat specialist

and on Sunday Nov 4th —

F.C.T. 1928.

acute inflammation broke out in a rival department.

"Fire or hæmorrhage, Nurse?" she quietly asks an agitated H.N., who, owing to her scarlet gown with figured top, had already been mistaken for a fire alarm, but, on hearing the quivering reply "F-f-f-fire, S-S-Sister"—what a change. Gone the dignity of deportment and, in its place, the dignity of action. Sister D-ra ran!! No fireman ran faster—or farther. Taking the hose in her stride time after time, there was no loss of style. Oh, Sister, how we longed to cheer you, but dare not!

By now the first division had gone into reserve, and very chic they looked in the window. Particularly attractive were several creations in figured crepe de chine, trimmed with net motifs, while picot-edged flares of the new uneven length were in great variety of colour. Orchid, ergot, nile, pervenche and lime were much in the picture, while of our old friend beige there seemed no end. Anyhow, if there was an end, we could not see it.

So the fire was fought. The nurses went back to bed or to the serving of fruit jelly with plums and custard, the engines went back to wherever they had come from, and the last that was seen on the site of the fire, or, rather, the last sight on the scene of the fire, was of Sister D-ra and Mr. E-son, like Shadrach, Mesach, and Abednego—only one short—walking into the flames, that were now extinguished for ever. Moreover, we hear that as a sequel to this unfortunate affair, the Night Staff have been served out with the most uncomfortable asbestos slumber wear.

MINIMAX.

Reviews.

Recent Advances in Diseases of Children. By W. J. Pearson, D.S.O., M.D., and W. G. Wylie, M.D. Published by Messrs. J. & A. Churchill. *Price* 15*s.*

THAT the children's specialist should be an exceptionally astute physician goes without saying, for the majority of his patients, and even those exhibiting physical signs to a marked degree, will provide but little in the way of symptoms, and leave him in consequence with the flimsiest evidence on which to base a diagnosis. It is all the more significant therefore that the attention of those who deal with children should be caught and held in so marked a manner by the biochemical trend exhibited in medicine during the past decade, and that they should have discovered definite evidence of the fundamental principles to which this trend leads unmistakably reflected in their own particular clinical material. The first 50 pages of this volume are devoted to a sincere attempt at a philosophy of disease based on the emergence of at least two definite clinical types, which appear when the newer clinical methods are applied, namely, the hypocalcic or lymphatic and the hypercalcic or acid. In the child especially do these types stand out in a clear biochemical light, and we find possibly first cousins in the "catarrhal" and the "neuro-arthritic" children that have been described elsewhere. Much of this first chapter is dogmatic, for in actual practice the type outlines are blurred and the chemical findings still confused, but here it would seem is the true glimmer of a new light and not the mere blaze of a passing cult.

The remainder of the book is arranged on purely clinical lines and gives an entirely personal expression of experience in the diagnosis and treatment of those ailments of children met with in everyday practice on which recent additions to scientific knowledge have a direct bearing. The sections on rickets and scurvy, on blood diseases and the use of X-rays seem to stand out as excellent in every way, while such subjects as convulsions, rheumatism, obscure pyrexia and infant feeding are dealt with in a new and helpful fashion.

Undoubtedly for the pediatrician a book that will provoke a great deal of discussion and, moreover, sound a definite challenge to the clinical agnosticism so often found in his department.

Applied Physiology. By Samson Wright, M.D., M.R.C.P. 2nd Edition. Published by Messrs. Humphrey Milford at the Oxford University Press. *Price* 18*s.*

A GREAT increase in size accompanies the passage of this book into a second edition. This increase is due not only to the inclusion of over 100 pages of fresh matter, but also to the adoption of a thicker paper with a finer surface, so that in every respect this new volume is up to the best standards. The additions and revision cover a great deal of ground, forming really a summary of recent advances in academic physiology that suggest possible clinical applications. Apparently the temptation to write an advanced text book of physiology has been a sore trial gallantly resisted, but here and there the armour has been pierced, especially in the section on the nervous system, where discussions on conduction with decrement and action currents in

sensory nerves seem to intrude, yet almost to justify their inclusion. The newer conceptions of the œstrous cycle and Sabin's work on the origin of blood cells are both given the increased prominence that their importance demands. The recent work of Anrep on the coronary circulation is summarised, and would perhaps have merited a little fuller discussion in view of its possible clinical bearings. The inclusion of Whitaker's gall bladder investigations seem eminently worth while, but it is surprising to find that the intravenous administration of the dye in Graham's technique is summarily condemned. Experience suggests that toxic effects are less often produced when a fresh solution is used in this manner than when the preparation is given by mouth, while the radiological results are infinitely superior.

The space given to consideration of the problems of nephritis still seems unusually brief, but perhaps it is in this sphere that clinical fools most often rush in where physiological angels fear to tread.

Altogether, a sound investment for the Primary Fellowship or Membership man and for lesser lights a useful reference volume.

Rheumatic Diseases. The Bath Conference. Published by the Hot Mineral Baths Committee of the Bath City Council. *Price* 5*s.* 2*d.*

THE book is a complete summary of the Bath Conference on Rheumatic Diseases, held in May of this year, and contains 57 papers read by various authors from all parts of the world. The social and general aspects, the causation and the treatment are treated more or less separately in the order mentioned, but the book should be read as a whole.

The first section is far the most interesting and hopeful reading. After a certain amount of statistical evidence to show the widespread prevalence and economical importance, one is led to believe that rheumatism may become a preventible disease. In this connection the incidence of rheumatic fever in the Royal Navy is striking, although time alone will show whether the proportion of cardiac disorders will follow the fall in this disease from seven to two per thousand per annum.

In the section devoted to causation, attempts are made to correlate all forms of rheumatic disease, chiefly from a pathological point of view. A streptococcal origin for acute rheumatism is generally acceded, and attractive theories, especially involving allergy, are built upon it. Osteoarthritis is looked upon as a different disease and strong evidence is brought forward to favour a traumatic origin in horses.

The section on treatment contains many of the varying "curative" methods in vogue. Practically no consideration is given to acute rheumatic fever, although Dr. Poynton mentions his preference for tolysin (ethyl-ester of methyl-phenyl-cinchonic acid) over salicylates. The tonsils have escaped without severe condemnation. Vaccine treatment is applauded when correct technique is employed, while physicians from spas are content to admit that many people obtain benefit from the change and psychological effects of taking the waters. They regret that the general practitioner does not make more use of the great spa hospitals. The surgeon winds up with descriptions of what he calls the "conservative treatment" and "radical cure" of arthritic joints. There seems no doubt that the Regius Professor of Medicine at Oxford is correct about rheumatism in particular when he remarks in his opening address to the section "that the more we know about many diseases the less we know about their cures."

The book has the virtue that any of the 57 articles can be read by themselves, and the majority of people will be able to dispense with most of them in order to get what they want out of the book.

Elementary Pathological Histology. By W. G. BARNARD. Published by Messrs. H. K. Lewis & Co., Ltd. *Price* 7*s.* 6*d.*

SINCE pathology forms the essential groundwork to the proper study of medicine and the clinician is more than often called upon to make intelligent use of the microscope as a supplement to his own unaided senses, the importance of morbid histology is at once apparent. So far but few books have appeared which definitely set out to be guide and companion to the student pathologist in his histological wanderings, an omission no doubt to be attributed to the difficulty and expense entailed in the provision of adequate illustration to such work. In this volume the letterpress is brief, yet to the point, taking second place to nearly 200 excellent illustrations —mostly photographs of actual sections—to which the text is invariably in convenient apposition, so that both may be consulted at the same time and without the nuisance of page turning.

The arrangement of the illustrative material provided in this volume passes in quite an orthodox manner from acute inflammatory processes through the more chronic microbic conditions and the various forms of degeneration to benign and malignant new growth. Stress is every where laid on the importance of recognition of the type of cellular reaction provoked by the particular con-

dition under consideration and the use of the highest powered objective encouraged to this end.

We know only of one other book that invades this particular field, a much more expensive American production, with definitely inferior illustration. Indeed, the moderate price of this work should bring it easily within reach of the student as a practical companion to his section cutting and his slide making, and save it from that relegation to the shelves of a reference library which is the frequent fate of more expensive volumes. Both author and publisher are to be congratulated. Short of illustrations in colour which would have placed the book out of range of the ordinary pocket, they could not possibly have done better.

Creatine and Creatinine. By ANDREW HUNTER, M.A., M.B., etc. Pp. 241. Published by Messrs. Longmans, Green & Co. *Price* 14*s.*

THIS monograph is yet one more in the series on biochemical subjects, and, as such, well maintains the standard set by previous publications. This particular book sets out in a remarkably clear and readable fashion the present state of our knowledge on the physiology of creatine and creatinine. We can realise the difficulties of the author when it is pointed out that prior to Folin's work in 1904 no reliable methods of estimation of either creatine or creatinine existed. Many of the methods in use at the present day for the separation of these bodies rest on no very secure basis. This means that in many places the evidence for the origin and distribution of creatine and creatinine is insecure and conflicting, but out of what might be chaos Professor Hunter has been careful to lead us towards the road of probable truth.

Undoubtedly this is as complete a work on this subject as exists, and the volume terminates with a list of some 900 references, which include practically all the published works on this subject.

Handbook of Sanitary Law. By B. BURNETT HAM, M.D., D.P.H.(Camb.). 10th Edition. Published by Messrs. H. K. Lewis & Co., Ltd., London. *Price* 6*s.* 6*d.*

THE author's preface adequately explains the contents and aims of his book. The arrangement is good and the small size of the volume, that fits comfortably in the pocket, makes it excellent for absorption of these obnoxious, but necessary, facts during spare moments.

This little book is intended mainly for the use of medical students desirous of taking the Diploma of Public Health.

"Sanitary Law" is to the majority of candidates the "bugbear" of the whole curriculum.

The reason is not far to seek.

The medical mind does not easily grasp the verbosity of legal phraseology, and, secondly, the Public Health and other statutory Acts have been so frequently amended that there seems to be no end to the various clauses, sub-clauses, sections, cross references, etc., etc.

Much of the subject matter in the text books on Hygiene and Public Health is, therefore, scattered and difficult of access. An attempt has been made in this small manual to collect and condense under various headings the whole of the law bearing upon the Public Health as applicable to England and Wales. The London Act has also been added for the purpose of reference and comparison. In reducing the clauses of the Acts to a simpler and less complex form, every care has been taken to preserve the strict and definite legal meaning of the original statutory text.

The following works have been consulted among others: Stevenson and Murphy's *Hygiene,* Notter and Firth's *Hygiene,* Wynter Blyth's *Lectures on Sanitary Law,* and Whitelegge's *Hygiene and Public Health.*

Surgical Nursing and After Treatment. By H. C. RUTHERFORD DARLING, M.D., M.S.(Lond.), F.R.C.S.(Eng.). Published by Messrs. J. & A. Churchill. *Price* 8*s.* 6*d.*

SINCE modern nursing, in alliance with medical science, is advancing so rapidly, the practice of using one text book on general nursing in nursing schools is to be deplored. The branches of nursing are so varied, the field of knowledge so much larger, that it is almost impossible to include detail in these works. Therefore to each branch its own text book. Here we have an admirable book on surgical nursing, written for nurses from a surgeon's point of view. It is clear and concise, with numerous explanatory illustrations. It is thoroughly up to date, and covers the full syllabus for State Examinations.

It can be recommended to any Sister Tutor as an excellent book on which to base lectures on surgical nursing. The chapter on "Operations on Diabetic Patients" is of special note, as well as being interesting; it should prove of the utmost value to those engaged in nursing such cases. Although primarily written for nurses, it should prove useful to almost any one connected with the medical profession.

Surgical Ward Work and Nursing. By ALEXANDER MILES, M.D., LL.D., F.R.C.S.(Edin.). Published by Messrs. Faber & Gwyer, Ltd. *Price* 8*s.* 6*d.*

THIS is an exceptionally good book for nurses who are studying for examinations, also for those who have been out of touch with modern hospital surgical nursing.

As a book for reference, it should be useful to a post-graduate nurse about to equip and run a surgical nursing home, also for any surgical ward sister.

Its illustrations of modern surgical instruments are excellent, and the chapter on "Surgical Asepsis and Technique in Ward Dressings" proves how theory, combined with practice, makes the best surgical nurse.

The Construction of a Porcelain Jacket Crown.

A Paper read before the Dental Society by Mr. Hooper, L.D.S., R.C.S.Eng.

MR. PRESIDENT AND GENTLEMEN,—My talk this evening will be principally of interest to those among you who have already done some porcelain work, and who have experienced the little disappointments and difficulties connected with the work.

But for the benefit of those who are not as yet familiar with the material, I will briefly run through its properties.

To quote Mr. Parfitt: "Porcelain is a silicious material composed of a framework of grains or particles cemented together by a relatively more fusible matrix substance; it thus possesses a structure not very dissimilar to that of a hard natural sandstone."

It has been used for the making of artificial teeth for such a long time that its properties are well known to you all.

As prepared for dental purposes, its colour and translucency are to all intents and purposes exactly like those of natural teeth.

The conductivity of porcelain for heat is low, as also is its coefficient of expansion, the latter being about the same as platinum and half that of gold.

It is a very inert substance, being absolutely unacted upon by any ordinary reagent, although it is rapidly attacked by hydrofluoric acid.

The material is supplied in the form of a fine powder, which, when packed in the required shape and fixed to the proper temperature, is converted into the porcelain with which we are familiar.

As the powder is turned out of the bottle into a heap it contains some 30 per cent. by bulk of air.

If the powder is mixed with water and subjected to vibration, the particles settle together in such a way that they take up as little room as possible.

The most convenient way of applying the vibration is to draw a corrugated instrument over the spring tweeezers in which the porcelain tray is being held. By this means a certain amount of the porosity is obliterated, but there is still a great deal that cannot be so got rid of.

If the mass is now dried, placed in the furnace, and the heat gradually turned on, certain changes will be observed.

First, the mass will go a dead white colour, followed by a darkening if any organic material is present; as this burns out, the colour will once more become dead white, like so much chalk.

As the heat increases it will be noticed that the mass begins to look slightly translucent, like a heap of powder that has been wetted; at the same time it will shrink in size.

This change is caused by the commencement of the fusion of the cementing substance; the particles of the infusible framework settles closer together, the air in the spaces partly escaping through the still porous mass.

It is usual to term this change "biscuiting."

If the mass is removed at this stage and cooled, it will be found that the surface is still rough, but has lost its dead white appearance.

The porcelain as a whole now forms a coherent lump, but can be filed or crushed without much difficulty.

A continuation of the heat to the point of "high biscuiting" will cause a shrinkage of nearly one-third of the initial bulk through escape of air from between the particles. At this stage the porcelain is all but at its maximum strength, but is not yet completely "glazed."

A slight increase of the heat, or even a continuation of the same temperature, will produce a fine bright glaze, without loss of shape or rounding of sharp outline.

The infusible framework is still intact, and the porcelain is fused exactly to the proper degree.

If the heat is raised still further, the sharp outline of the porcelain is lost and the colour is spoiled. This is due to the fusing of the foundation, or the gravel of your concrete. If the heat is

continued still further, the whole loses its shape and melts to a glass.

Some 30° C. of temperature, or half a minute of time, may make all the difference between under fixing, correct fixing or over fixing; hence, the heat must be gauged with considerable accuracy.

Porcelain is not a chemical substance.

Time and temperature are factors of fusing. Methods of gauging temperature:—

(1) Thermo-electric pyrometer.

(2) Prepared pellets (gold and platinum 9.2 per cent.), Le Crou's pyrometer.

(3) Pure gold pellets, Le Crou's pyrometer.

Low fusing bodies, such as Ash's, used in conservation room can be judged by inspection.

A porcelain jacket crown is a shell covering a truncated cone of dentine containing a vital tooth pulp. It is the only form of crown which can be used in the front of the mouth, apart from a gold cap crown, without devitalising the tooth. In these days, when the devitalisation of teeth is being viewed with more and more distrust, the porcelain jacket becomes increasingly important in the higher sphere of dentistry.

The teeth suitable for treatment are those incisors or canines which have both mesial and distal cavities and part of the incisive edge involved in the destruction.

(2) Hypoplastic teeth which are particularly unsightly or carious.

(3) Lastly, those teeth with imperfectly calcified enamel, which are often stained a dark brown. Before starting any operation an X-ray should be taken to ascertain the size and shape of the pulp and the health of the periodontal membrane. A healthy pulp and periodontal membrane are essential.

Root Preparation—

(1) Remove the occlusal edge to allow room for porcelain.

(2) Trim medial, distal, labial and lingual aspects of tooth so as to form a truncated cone with walls inclined to one another about 10°. Amount of reduction should be such that the porcelain shell will be nowhere less than 1 mm. thick. You will save your stones somewhat if you cut grooves on both labial and lingual surfaces and remove the enamel with straight chisels.

(3) The cervical edge should be formed into a square step from 1 mm. to 1½ mm. deep, at or fast under the gum margin round the whole circumference of the tooth.

The most convenient stones for carrying out this work are those having the shape of a taper fissure bur. The sharp angle at the cervical margin is produced with a new stone or a fissure bur.

All the preparation is done under local anæsthesia. But, as in all cases when conservative work is done under anæsthesia, the stones or burs must not be allowed to get hot, and the pulp must be treated with great respect. Then smooth the cone with cuttle fish discs.

An impression has now to be taken of our cone. Fit a short length of thin copper tube to loosely encircle the root. Fill the tube with Kerr's composition; warm, vaseline the surface slightly, and press on to the tooth. Remove the ring from the tooth and pack with cement or amalgam. It is as well to build up a little more wall round your impression—two or three thicknesses of pink modelling wax will do—in order that considerable force may be exerted in packing and a base is built to your model.

When set remove composition from model.

Take articulating impression of tooth and opposing and adjoining teeth with composition; insert model of prepared root into its place in the impression. Cast in plaster of Paris.

Now we must have a model on which the porcelain body may be built and heated until fused. The material used is platinum, which has a melting point well above that of gold. Platinum foil 1/1000th of an inch thick is cut to shape. There are several ways of doing this, but I have found the most convenient and economical that of dividing the foil into diamonds measuring 1¼ inch by ¾ inch across the diagonals. This is sufficiently large to cover any coned root.

Swage the foil by hand on to the model, making the join on the lingual surface from apex to base. All the folds are made as far as possible on the palatal surface, for it is on this surface that the eventual covering of porcelain is thickest. The swaging is facilitated by binding the foil on to the mould with silk thread.

Remove the matrix without distortion from the model. This is done by surrounding it with your original copper ring and packing camphor round the platinum.

Fill the matrix with a mixture of paster 1 to 3 of silica to strengthen, and insert a platinum wire into the plaster while soft as a handle.

Paint the whole of the platinum representing the cervical ledge with shellac varnish. The purpose of this is to prevent the porcelain from

adhering to this ledge when fired. The shellac is burned away leaving a gap. Shellac varnish is made by dissolving a few flakes of shellac in methylated spirit.

Apply a celluloid crown form or a paper cone to the outside of the platinum matrix and keep in place with sticky wax. This is to build the cone or dentine of the crown to shape. High fusing powder is used and this, moistened with water, is vibrated into the crown form through the incisive edge, which has been sliced off. Agitate more porcelain body in until the form is full, when dry body is added to absorb as much water as possible. The sticky wax is now trimmed away with a sharp knife and the crown form is removed by slicing it mesially and distally with a red hot plastic instrument, when it peels away in two pieces. Carve to shape if necessary. The whole is now placed on the platform of the furnace and allowed to dry very slowly. When dry the core is placed in the furnace and fired to a biscuit. The result has a most distressing appearance ; it has contracted down one-third of its bulk and has several cracks and fissures running through it. After your careful carving it has the appearance of a complete wash out. The cracks and fissures are, however, filled with more porcelain body vibrated into place, and corrections are made in the contour.

The core is then fused to a glaze. Remove the plaster investments from the inside and clean.

Now, the platinum matrix with the high fusing core is tried on the patient's tooth. Since the cervical margin was covered with varnish, this is completely free from porcelain, so that the platinum is reburnished down to the cervical ledge finally. Remove from tooth and apply porcelain of lower fusing point to cover the cervical edge. The crown is returned to the furnace and this cervical edge is fired to a biscuit. Having tried this on tooth add porcelain body of the same lower fusing point and build out to the correct contour, slightly overbuilding the contact points, for this final layer will contract as did the others. Fire the crown now to a glaze. If the contact points prove to be too bulbous they can be stoned away, the rough surfaces sand-papered and the crown reglazed in the furnace.

Remove the platinum and etch the inside of the shell with hydrofluoric acid, having previously protected the cervical edge of the crown with inlay wax.

Boil in sulphuric acid to dissolve the chalky deposit of fluorides.

Your crown is now ready for cementation. Dry the tooth and smear soft cement on both—first on the crown and then on the root. Press home and hold it in place until the cement has set. When the cement is hard trim away the surplus from the cervical margin.

I would urge you all to take on one of these crowns at the earliest possible opportunity ; while at the hospital you should try as many dental operations as you possibly can. I fear that your first attempt at this type of crown will very much disappoint you, but if only you continue in your efforts you will find that each crown is better than the one before, and that your proficiency in porcelain work improves very rapidly.

Watch Mr. Parfitt on every possible occasion. He is the master. If I had my course in the Dental School over again I feel that I would cross off every Wednesday morning of the terms and would spend them watching Mr. Parfitt at work ; it is the best dental education you could have. Let his book on *Operative Dental Surgery* be your constant companion. I have tried many methods, but I find that Mr. Parfitt's methods are the easiest and soundest.

Now to discuss equipment. As the majority of men leave Guy's I am certain that they go out with the intention of doing the very best that is dentistry. But a number bump against a very unpleasant obstacle—expense.

I have just made inquiries from Messrs. S. S. White and have received a quotation from them for an electric furnace with thermo-electric pyrometer. The price of this complete, with their smaller size muffle, is £88 15*s.* ; with the larger muffle the price is £93 5*s.*

I am quite certain that this initial outlay deters a number of men from embarking on porcelain work, for in the average practice the furnace is only used at quite long intervals.

I discovered that Mr. Parfitt does his beautiful work in a home-made furnace, and so decided to make one for myself. The one I constructed cost me round about £10 and works extremely well.

The muffle is obtained from Morgan's Crucible Co., price 4*s.* 6*d.*, H.3.

Winding by Messrs. Mitchell, Didsbury.

Kaolin or china clay.

Porous jar of Leclanché cell.

Body of investment tin filled with fireclay.

Insulating slate for terminals.

Resistance supplied by the Dental Mfg. Co. of 75 ohms.

Correspondence.

A Case for Diagnosis.

DEAR SIR,—A case for diagnosis. This is the letter of a raw native, who, when a boy, received some tuition from a missionary.

Yours truly,

W. H. DIXON.

Doctor Dickson.

Dear Sir

We am heartily troubled our child is 9 months old. She is very sick we have no hope that we can reach town with her. Therefore Dear Doctor The trouble is this.

1. She is coughing chest dry.
2. As soon as she eats she vomits all food.
3. When goes to lavotory—
   1. white stuff come out first and then green.
   2. now mix with blood like metabolism.
   3. Twisting her body.
   4. She does not food at present.

ELIAS MKABINDE.

Klipfontein.

August 2nd, 1928.

Ladies' Swimming Cup.

ON October 19th the Team Race took place for Miss Hogg's Cup. The different teams swimming were from the Electrical Department, the Administrative Department, the Massage Department and the Nursing Staff.

The holders, the Massage team, were again victorious after an exciting and enthusiastically supported race. The Electrical team was second and the Nurses third.

After the race there was an open Flat Race of 2 lengths, won by Miss Barnes of the Nursing Staff. The Nurses' Team then gave an exhibition of swimming strokes, followed by an excellent display of diving by the Massage Team, led by Miss Mason.

We were very proud of having Miss Hogg to present the Cup to the winners. This is only the second time she has appeared at a Hospital function since she left.

Very few guests were present as the entertainment was a short one and the space for onlookers in the Home Baths is very limited. We look forward to the day when we shall have a gallery running round the far side of the Baths! Mr. and Mrs. Eason were there, however, and although Mrs. Eason is a keen supporter of the Nurses swimming, we think we are right in saying it is the first time Mr. Eason has been to the Baths on such an occasion. We hope it will not be the last.

The Judges were Mr. O. M. Jones and Mr. de Gruchy, to whom we were very grateful.

K.B.

Sport.

Rugby.

Guy's *v.* Harlequins.

AT Honor Oak Park, on Saturday, October 27th, Guy's entertained the Harlequins, and were defeated by 2 goals and 3 tries (19 points) to 1 goal (5 points).

The visitors brought a strong side, including several Internationals. A conspicuous figure in their pack was E. H. Fouraker, the old Guy's forward, who played a leading part in the 'Quins' success.

Guy's started sensationally, and within five minutes were a goal ahead, but gradually the 'Quins wore down our defence and eventually had the greater portion of the game and thoroughly deserved their win.

From the kick-off, our forwards followed up, practically swept the opposing defence off their feet, and carried the ball into touch inside the visitors' 25. From the line-out the ball came to Hubbard, but he failed to hold it, and Lashmore dashed over for Hogbin to kick a fine goal.

Strong forward play by the 'Quins carried play to our 25, but they were penalised for offside, and

Durr found touch with an excellent kick. Windsor Lewis snapped up an opportunity and passed to Ryan, and after some good passing between our threes, I. K. Thomas secured in front of the posts and attempted to drop a goal, but the shot was charged down.

Another good round of passing between Lewis, Ryan, Thomas and Robinson looked dangerous for the 'Quins, and only an excellent tackle by Reeve prevented Robinson from scoring. Hodge, the visitors' left centre, then broke through on his own, but Robinson collared his man and brought him down when he had the line at his mercy.

Continuing to press, the 'Quins effected a fine round of passing, but Cole knocked on at the critical moment. A pass by Howell was intercepted by Price, and the latter flung himself over the line, but Hubbard missed the kick.

Immediately following the kick off the visitors again pressed heavily, and Hutchinson was compelled to touch down. Wakefield led the 'Quins in a strong forward rush, but Thomas saved. Unfortunately, he miskicked the ball into touch just inside our corner flag. From the line-out, our pack, ably led by Popplewell, Hogbin and Morgan carried play to mid-field, when half-time arrived with Guy's losing by 6 points to 5.

After the interval a short spell of mid-field exchanges was followed by a good effort between our threes. Play was carried to the 'Quins' 25, but an opening was lost when Thomas failed to hold a pass from Lewis. Hubbard found touch with a splendid kick, and soon after Guy's were penalised for offside—Fouraker tried a shot at goal, which fell short. After Hubbard had secured a mark from a short punt by Ryan, the visitors' threes, running strongly, handled accurately and Reeve was only brought down on our goal line. Laird received from the scrum that followed and, running smartly round the blind side, scored easily near the posts for Hubbard to convert.

From this point the 'Quins took command and, following a desperate onslaught by their forwards and a perfect round of passing between their threes, Price crossed our line for an unconverted try.

A splendid individual effort by White, the visitors' right wing, followed. After side-stepping three of our backs, he broke clean through our defence, but Thomas raced across the field and brought him down within a few yards of the line.

Another attack by the visitors' threes enabled Reeve to cross-kick to Laird, who gathered in his stride and scored between the posts for Hubbard to add the extra points.

Following this reverse, Guy's were kept on the defensive in their 25, but no further score resulted. The Harlequins were at their best—their forwards worked tirelessly from start to finish, whilst their threes had a perfect understanding and handled with excellent judgment. V. G. Davies and H. C. Laird were a splendid pair of halves, and Hubbard at full back kicked with rare judgment and never put a foot wrong.

On the other hand, Guy's forwards put up a fine fight against a much heavier pack—in particular Popplewell, Lashmore, Hogbin and Clarke. Our threes have not yet settled down, and whenever the ball did come their way there was too much tendency to kick instead of giving the wings an opportunity. Hutchinson at full back defended well, although at times he appeared a trifle slow.

Guy's Team—J. C. Hutchinson; T. G. Robinson, D. F. Ryan, I. K. Thomas, F. F. Kennedy; J. Howell, Windsor H. Lewis; J. R. F. Popplewell, W. H. Myburgh, J. Durr, R. A. P. Hogbin, T. Morgan, G. F. Lashmore, D. S. Clogg, A. R. Clarke.

Guy's *v.* Northampton.

ON Saturday, November 3rd, Guy's suffered another defeat at home at the hands of Northampton by 2 tries and a dropped goal (10 points) to 0.

Windsor Lewis, who was playing in the Welsh Trials, was an absentee, and several Freshers appeared in the Guy's side for the first time. P. A. Sloane, a three-quarter from the Dollar Academy, appeared on the left wing, and in the pack trials were given to J. O'Shea and J. A. T. Rowlett.

Conditions were ideal for a fast open game, but on both sides there was a tendency to kick when a passing movement might have opened up the play and led to a score.

From the start Guy's attacked, but Taylor, the full back, received and found touch with a splendid kick of 40 yards. Following a scrum in the Hospital's 25, Facer received and attempted a drop at goal. The ball appeared to sail over and close to the left hand post, but the referee gave Northampton the benefit of the doubt, and, incidentally, a lead of 4 points.

Stung by this reverse Guy's exerted pressure and, following a good kick to touch by A. J. D. Lewis, Northampton were hemmed in their own 25 until Jones kicked out of play.

Offside against the visitors saw Hogbin attempt a penalty goal; Matthews broke through, but Ryan brought off a fine tackle and found touch.

From the line-out the visiting threes made good progress until a forward pass in our 25 spoilt a promising opening.

Guy's returned to the attack and Myburgh followed up a punt by Ryan and compelled Northampton to touch down. Two penalties for offside against the visitors did not help very much, as on each occasion the ball was kicked into the full back's hands, and he was able to clear easily. An excellent effort between Ryan, Thomas and Robinson nearly led to a score, when the latter was thrown into touch near the corner flag. Continuing the pressure, Guy's were nearly over on two or three occasions, and it was only first class tackling that kept them out.

Eventually Northampton broke away and Haslemere ran well before passing to Loverock, who scored an unconverted try. Two good efforts by Guy's before the interval were spoilt by poor passing.

Early in the second half the visitors were penalised, and Durr found touch near mid-field. Northampton broke away and, following a scrummage, Hogbin got offside, but a good opportunity to score was missed by Harris.

A three-quarter movement between Ryan, Thomas and Sloane did not make much progress, as the visitors' marking was very close and sure. Another fine effort by Robinson and Ryan ended when the former found touch near the corner flag.

Northampton relieved and after mid-field play the ball reached our 25, when Thomas passed to Hutchinson, but the latter was compelled to kick quickly into touch.

Continuing the pressure, Northampton kept Guy's confined to their 25. On two or three occasions our defence were in difficulties, chiefly because of the poor tackling. Haslemere brought off several good cross-kicks, and following up one of these scored Northampton's second unconverted try, being lucky with the bounce of the ball.

Before the finish the Hospital forwards made a final effort, in which Clarke and Durr took a prominent part, but Northampton defended well and kept their line intact.

Rowlett made a successful appearance and fully justified his inclusion. With a little more experience Sloane should do well. Robinson ploughed a lonely furrow and appeared to be isolated on the wing. What chances did come his way were never wasted, and he should get far more support than he did. The tackling was poor, with one or two exceptions no attempt was made to tackle low. The forwards showed a marked improvement on previous games.

Guy's Team—J. C. Hutchinson; T. G. Robinson, A. D. J. Lewis, I. K. Thomas, P. A. Sloane; W. D. G. Jones, D. F. Ryan; J. R. F. Popplewell, W. H. Myburgh, J. Durr, R. A. P. Hogbin, G. F. Lashmore, A. R. Clarke, J. P. O'Shea, J. A. T. Rowlett.

Guy's *v.* Cambridge University.

ON Wednesday, November 7th, Guy's entertained Cambridge University, and were easily defeated by 4 goals 4 tries and 1 penalty goal (35 points) to 1 penalty goal (3 points).

Windsor Lewis was unable to appear against his old 'Varsity owing to an injury he received in the Welsh Trials the previous Saturday. However, P. D. B. Spence made his first appearance of the season at full back, and in the pack, trials were given to J. S. Batchelor and E. H. Jones, who took the places of Durr and O'Shea.

The back division of the 'Varsity gave a dazzling display throughout, and simply overwhelmed our defence, who were unable to cope with the swift thrusting mechanism of the Cambridge attack. The forwards had some desperate scrummages with the 'Varsity pack and more than held their own, but with one or two exceptions they received very little support from behind.

The visitors' halves had a wonderful understanding and Bowcott constantly supplied his threes with opportunities, which they rarely failed to utilise.

For the most part of the game Guy's were defending, and it was on rare occasions that they looked dangerous, and only then through the dribbling rushes of the pack.

The Cambridge pair on the right wing, Aarvold and Smeddle, were a constant source of danger, and between them they scored 5 of the 8 tries. Smeddle and Reeves each performed the hat trick, whilst Aarvold crossed our line twice. Walters converted 3 tries and placed a penalty and Smeddle converted a try scored by Reeves.

Guy's only score came from Hogbin, who placed a brilliant penalty goal from mid-field.

For the Hospital, Popplewell, Clarke, Hogbin and Myburgh worked heroically, whilst Spence gave an excellent display against a relentless attack. Jones and Ryan at half back performed well, but they were overshadowed by the brilliance of the old Blues Campbell and Bowcott.

Guy's Team—P. D. B. Spence ; T. G. Robinson, D. F. Ryan, A. J. D. Lewis, P. A. Sloane ; W. D. G. Jones, I. K. Thomas, J. R. F. Popplewell, W. H. Myburgh, R. A. P. Hogbin, G. F. Lashmore, A. R. Clarke, J. A. T. Rowlett, E. H. Jones, J. S. Batchelor.

Guy's *v.* Coventry.

PLAYING at home for the fifth Saturday in succession, Guy's were again defeated by Coventry by 2 dropped goals (8 points) to 1 dropped goal (4 points).

After their display against Cambridge and Northampton it was decided to keep the pack intact with one exception K. P. Smith, who has been playing for the Old Alleynians, securing his place to the exclusion of E. H. Jones.

The back division was strengthened by the return of F. H. B. Spence at left centre and Hutchinson completed the three-quarter line on the left wing.

There was an excellent attendance and the ground was in perfect condition, but just as the game started a steady drizzle set in which made the ball very slippery to handle. Consequently, numerous mistakes were made in handling, and several good opportunities were thrown away. The forwards more than held their own against the formidable Coventry eight. They heeled the ball quite well, but Gascoigne, the visitors' scrum half, kept a very careful watch and very seldom allowed Jones to get the ball away. However, Jones played a good game in spite of the close attentions of his vis-a-vis and gave Thomas a number of opportunities to get the threes going. When the game started Ryan played at full back, but before the game was 20 minutes gone it was noticed that he and P. D. B. Spence had changed over.

Guy's kicked off and I. K. Thomas found touch in the visitors' 25. A good chance was thrown away when Hutchinson failed to gather a good pass from Thomas. The Hospital pressed heavily for the first 10 minutes, but Coventry's tackling was very deadly and nothing resulted. Eventually the visitors broke away and found touch near our 25. A movement by our threes ended when Mayo intercepted a pass, but kicked the ball dead. Soon after another long punt by Mayo compelled Ryan to touch down. A forward rush by Guy's carried play to the visitors' full back, but he cleared in fine style and found touch near the half-way line. Coventry again attacked and their threes had an excellent opportunity to score, but Kingston knocked on when he had the line at his mercy. However, in a few moments he atoned for his mistake by dropping a well-judged dropped goal from 20 yards range.

Fine passing between the Coventry threes ended when Robinson effected a splendid tackle and threw Lee into touch. Our threes carried play to the visitors territory, but on two occasions Hutchinson failed to accept the final pass. Following a scrum in front of our posts, Gascoigne received and dropped a second goal for Coventry.

Guy's improved after this, but in fairness to the visitors it may be mentioned that they were handicapped by an injury to Lole, their fly half, who was practically a passenger on the wing after the first 10 minutes of the game. On two or three occasions our threes broke through, but although some excellent passing was seen, progress in each instance was checked in the visitors' 25.

Thomas intercepted a pass and punted over the full back's head, but Pitcher, who played a sound game for Coventry, secured and found touch. Another movement by our threes was spoilt by a forward pass. Following a good individual effort by Ryan, Kingston went right through our defence, but slipped when faced by Spence.

The second half saw Coventry go off with a dash, and Malin kicked to our 25. Offside against the visitors enabled Spence to find touch with a fine kick of 35 yards. After Spence had stopped a forward rush, Thomas intercepted a pass and found touch with careful aim. For a time Coventry pressed on our goal line and in the excitement Guy's were penalised for offside, but Mayo missed an easy chance to land a penalty goal.

Popplewell then led a terrific rush to the visitors' line, but a mark brought the visitors relief. A breakaway by Ryan was followed by an excellent sprint by Robinson, who raced away from mid-field and was only brought down near the corner flag.

Towards the end Guy's pressed very hard and eventually Ryan dropped a perfect goal. Just before no side Gascoigne, the visitors' scrum half, was so badly hurt in stopping a forward rush that he had to be carried off.

Guy's Team—P. D. B. Spence ; T. G. Robinson, D. F. Ryan, F. H. B. Spence, J. C. Hutchinson ; W. D. G. Jones, I. K. Thomas ; J. R. F. Popplewell, W. H. Myburgh, J. Durr, R. A. P. Hogbin, G. F. Lashmore, A. R. Clarke, J. A. T. Rowlett, K. P. Smith.

Association Football Club.

Guy's *v.* H. A. C.

ON Saturday, November 3rd, we were visited by our old friends and rivals the H.A.C., and the Hospital atoned for the defeat it suffered last year by a decisive victory of 5-0.

The game was rather more one-sided than is customary in these games, but our total scoring was, strangely enough, confined to the second half. The first movement of the game was a lightning dash down the wing by their outside right. He came right in and sent in a fast shot which struck the upright and rebounded into play. After this the H.A.C.'s forwards seldom got going, and whereas a constant pressure was maintained on our opponents' goal, Fitzgerald had but few shots with which to deal. The first half, however, yielded no scoring, for our forwards lacked that extra bit of cohesion when nearing our opponents' goal.

The second half told an entirely different tale. Our forwards combined well and good passes were going from halves to forwards. Shortly after resuming, Sharp obtained the ball and scored with a fast shot which struck the goalkeeper before going in. Following this the same player gained possession in front of goal, steadied himself, and scored with a well placed shot. The play was still confined to our opponents' half, and Small, running in, shot fast and low. Their goalkeeper just managed to deflect the ball, and Jones, running up, steered it into the net.

Just after this the H.A.C. made their one dangerous raid of the second half. This resulted in a good shot from their inside right, which Fitzgerald excellently saved. Our forwards once again got going, and Wood, at inside left, rounded off a good movement by scoring with a good shot well out of the goalkeeper's reach. After this Small brought our total up to five, and this terminated an enjoyable game, in which our opponents were clearly outplayed.

Guy's *v* Old Wellingburians.

ON Wednesday, October 31st, Guy's journeyed to Wellingborough School to play the Old Wellingburians. The first half opened with both sides having an equal share of the game. After 20 minutes Guy's opened the scoring; Cantor brought the ball well into our opponents' half and, after cleverly beating two or three men, gave the ball to Edwards, who scored with a first-time shot. The Old Boys played up well after this and once were very unlucky not to score, the ball rebounding from the post with the goalkeeper out of the goal. About 10 minutes before the interval they scored an equalising goal.

For the first 15 minutes of the second half Guy's were completely outplayed, and the Old Boys scored 4 goals in that time. Guy's settled down and the play consequently improved. Edwards scored again after the goalkeeper had partially saved a shot by Small. Further goals were scored by Wood and Small. Guy's tried hard for an equalising goal, but time came with the Old Wellingburians leading by 5–4. It was a very enjoyable game, played under ideal conditions.

Other Results

October 20th, 1st XI, *v.* Old Salopians, won 6–2.

October 27th, 1st XI, *v.* Old Bradfieldians, lost 0–3.

October 27th, 2nd XI, *v.* Christ's College, Finchley, lost 1–3.

November 7th, 1st XI, *v.* Ardingly College, won 5–2.

November 10th, 1st XI, *v.* Old Finchleians, draw 1–1.

Sailing Club.

The Ogilvie Cup Race.

THE race for the Cup presented by Mrs. Ogilvie for single-handed dinghy sailing was held on Sunday, October 28th, at Fambridge. In spite of foul weather on Saturday, Sunday turned out to be an ideal day for sailing.

The wind was in the north, and a double triangular course was chosen, to give a variety of sailing conditions: a beat to the first mark, then a gybe and a following wind to the next mark, then a beat, followed by a further run to the fourth mark, and so back to the starting line.

With a strong wind in the first heat, Wood led round the first mark, only to foul it with the end of his boom, giving Bunyan the first place, G. B. Palmer finishing with a boat half swamped, the baler having been washed overboard early in the race.

The second heat resulted in a win for Bradbeer after an exciting race with R. E. R. Palmer, the latter fouling the last mark boat in an attempt to gain the lead, thus following Wood's example and giving C. H. Johnson a second.

Mr. and Mrs. Ogilvie arrived at this point and, having disappeared within the boathouse for a few monents, Mr. Ogilvie reappeared heavily disguised in seaboots and a deep sea jersey, and in the third round proceeded to show Wood and Palmer how to sail a dinghy. The former retired with a half-submerged boat, and Mr. Ogilvie, taking the lead early in the race, maintained it fairly easily. Two semi-finals were then sailed, and resulted in the elimination of Bunyan and G. B. Palmer, leaving Mr. Ogilvie, C. H. Johnson, W. H. Bradbeer and R. E. R. Palmer in the final.

At the commencement of the last race the wind dropped away completely and left the four dinghies practically at a standstill, just holding their own against the tide. Then followed a furious bout of kedging, in which each competitor broke every rule of yacht racing. The idea was to throw out the anchor as far ahead as possible and then pull it in rapidly, getting very wet in the process, and gaining about a yard at each throw. This exhausting process continued for about 10 minutes, the silence of the evening being disturbed every few seconds by the splash of an anchor. No more comical yacht race has ever been staged, I should imagine.

Everyone got thoroughly wet and achieved very little else, so we adjourned to the *Ferry Boat Inn* for an enormous tea. Taking the best aggregate performance in the various races, W. H. Bradbeer was found to have beaten the rest of us by a considerable margin, and so gets the Ogilvie Cup for 1928.

The Ideal Patient.

THE "ideal patient" is the man—
Though Nurse has never met him—
Who helps the Nurses all he can,
Whenever they will let him.
Who will submit to being fed,
Whatever his condition,
And, uncomplaining, sits in bed
In Fowler's foul position.
At small mistakes he never laughs
Nor causes extra labour,
But gladly drinks the nauseous draughts
Intended for his neighbour;
And lets his laughter fill the Ward,
For never man was less terse,
And, when he sees the number board,
He always answers, "Yes, Nurse."
He sings the hymn at close of day
In accents soft and trilly,
And never interrupts to say
He's slipping off his "billy."
He praises all the Doctors' plans,
Be they mature or larval.
In fact, this superhuman man's
A perfect —— marvel.

Hospital Information, etc.

Guy's Hospital Appeal.

OUR attention has been called to an error which appeared in the list of contributions received and promised in response to the Appeal printed in our last issue. A donation of £250 under the name of W. R. Moon, Esq., should have appeared as from the Executors of the late William Shepherd, Esq., through the kind offices of Sir H. Percy Shepherd, a Governor of the Hospital.

The following additional donations have since been received, bringing the total response to the Appeal to date up to £30,003 13*s*.

	£	*s*.	*d*.
Mrs. William Hoade.....	100	0	0
West Side Country Club Tennis Challenge (further on account of Proceeds from Charity Tennis Challenge)	50	6	0
Rt. Hon. Lord Knutsford	50	0	0
Dr. W. L. Watt	26	5	0
J. Lewin Payne, Esq., L.D.S.	10	10	0
J. T. Leitch, Esq., per R. P. Rowlands, Esq., M.S.	10	10	0
Smaller Donations	80	6	0

Notice.

Guy's Hospital Dental School—Registrarships in the Dental Department for Children—It is regretted that, owing to a misprint, the salary advertised for this post was wrongly stated to be £180 per annum. The salary attached to the post is **£120** per annum.

T. B. JOHNSTON,
Dean.

Speciality.

THE Dental Manufacturing Society's *Diary of Appointments for* 1929, with the feature of a detachable address book transferable to next year's issue, provides strikingly good value at the moderate price of 6*s*. 6*d*. The marked convenience of its arrangement and the strength of both binding and paper should commend it to the busy practitioner.

Pass List.

UNIVERSITY OF CAMBRIDGE

SECOND EXAMINATION FOR MEDICAL DEGREES

PART III

Pharmacology and General Pathology

October, 1928

G. W. Hall-Smith — G. V. Steward

Diploma in Public Health and Hygiene

October, 1928

C. F. Brockington — P. C. Wickremesinghe

M.D.

Harold Wacher, M.B., B.Ch., B.A.

FINAL CONJOINT EXAMINATION

October, 1928

Pathology

C. Skinner — A. Wiseman
S. D. McClean

Medicine

*S. M. Cohen — *B. J. Bouche,
R. Cutler — B. A. Moss
*L. K. Wills — W. J. Cotton
*J. B. Blaikley — *W. H. Allan
*U. P. Sinha — *W. E. L. Hannay
*W. L. M. Bigby — *E. C. Duffett
*S. H. Croot — *J. D. Cambrook
*H. A. Clarke — *R. Glanvill

Surgery

*W. H. Allan — *U. P. Sinha
*W. L. M. Bigby — G. J. Hollis
A. J. Groenewald — E. B. Rogers
E. Vitenson — *W. E. Herbert
*S. A. Scorer — *C. H. Johnson
*H. Richards — *D. T. Jones
*M. T. Brockman

Midwifery

*S. M. Cohen — R. Cutler
R. J. O'Donoghue — F. S. C. Pritchard
*W. H. Allan — S. J. Wheeler
B. H. A. Bovet — *F. E. Camps
C. F. Cosin — *S. Shone
V. W. L. Wells — G. J. Hollis
A. J. Groenewald — T. D. T. Brocklehurst
A. Eckford — L. Gabbe
*H. W. D. Crook — J. G. Q. Brown
H. G. McGregor — T. B. Pitts
A. D. H. Hugo — C. Hortop
J. J. Van Niekerk — A. E. Treweek
*E. R. Mellon

* Have now completed the Examination

Papers by Guy's Men.

A. F. Hurst, M.D., F.R.C.P. An Address on Recent Advances in the Treatment of Gastric Diseases, *B.M.J.*, 1928, ii, 779.

L. R. Broster, M.Ch., F.R.C.S. Gastric and Duodenal Ulcer, *B.M.J.*, 1928, ii, 786.

Reginald C. B. Ledlie, F.R.C.S., and Maurice Davidson. A Case of Primary Carcinoma of the Bronchus with Secondary Bronchiectasis: Death Following Phrenic Evulsion, *British Journal of Surgery*, 1928, xvi, 198.

E. G. Slesinger, M.S., F.R.C.S. Enteric Cyst of Large Size in a Boy, *Ibid.*, 333.

Change of Address.

S. H. Peatfield, L.D.S., R.C.S., The Red House, West Road, Guildford.

E. H. Richards, M.B., B.S., North Staffordshire Royal Infirmary, Stoke-on-Trent, Staffs.

S. B. Browning, M.R.C.S., Wellington House, Wellington Road, Handsworth Wood, Birmingham.

G. T. Hankey, M.R.C.S., L.D.S., 23, Gloucester Gardens, Hyde Park, W.2. 'Phone: Paddington 0854.

Appointments.

E. Horace Richards, F.R.C.S.Edin., appointed Honorary Assistant Surgeon, Ear, Nose and Throat Department, North Staffordshire Royal Infirmary, Stoke-on-Trent.

George Trevor Hankey, M.R.C.S., L.D.S., appointed Assistant Dental Surgeon to the London Hospital.

Marriage.

SELBY—HAILSTONE—At St. Stephen's, Cheltenham, on November 8th, 1928, Harold John Selby, son of the Rev. and Mrs. W. J. Selby, of Welland Lodge, Cheltenham, to Clara Wilhelmina, daughter of the late Commander and Mrs. W. Hailstone, of Ridgeway, Cheltenham.

Guy's Hospital Gazette.

(ESTABLISHED 1872)

A Journal of Hospital News, Medicine, Surgery and Dentistry

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The Editor will, at all times, be glad to consider articles or sketches, provided that they are accompanied by the writer's name and address, not necessarily for publication. The payment that the GAZETTE can offer is merely nominal. Authors who desire reprints of their papers should make their own arrangements with the printers when they return their proofs. All contributions to be addressed to *The Editor*, who does not accept responsibility for the views expressed by contributors.

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EDS. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLII. *December 1st, 1928.* *Number 1053*

PASSIM

ANOTHER Christmas is threatening. This rapid approach of an annual and established occasion creates different sensations in different minds. The grocer thinks of his increased business and is filled with self-satisfaction. The office boy sees two days of complete holiday ahead and makes his plans carefully with joy in his heart. The housewife thinks of the extra washing up which will fall to her lot and is depressed. The tramp foresees free meals and tips galore and sleeps in peace under his frosty hedge. The Ward Sisters, as we observed in our last *Passim*, are wrapped in thought and paper decoration in preparation for the approaching cataclysm. The Niggers are heralding their annual outburst by strange premonitory sounds, which now issue regularly night by night from the Residents' Room in the College. The youth of the Borough clamours daily at the gates for admission to the Landon Tea—that is really what Christmas means to them. At this tea some 700 boys and girls, all resident in the Borough and all under 14 years of age, are entertained at Out-Patients on Christmas Day.

Each child is given a present, and we have been asked to appeal for gifts, either in money or in kind, with which to decorate the two Christmas trees which appear at the tea. Toys of all descriptions, and especially dolls, are required, and may be sent to Sister, The Out-Patient Department, Guy's Hospital, S.E.1.

WE should like to offer our heartiest congratulations to Mr. C. Lambrinudi, F.R.C.S., on his recommendation for appointment to the recently created position of Assistant Orthopædic Surgeon to the Hospital.

"Finer feet for all" might well have been the slogan that held the Governors' attention and influenced them in their wise decision to extend the work of this all-important department. The average arch of the Borough tarsus badly needs the support of a ripe orthopædic experience (on occasions backed up by Bailey's more material efforts).

WE are asked to announce that "Anaphylaxis" is the subject selected this year for the Treasurer's Prize Essay. In accordance with the usual practice, a suitable pseudonym must be attached to each essay submitted. The closing date for the actual essay is to be March 15th, 1929, but in order that they may gain some idea of the size of the entry, the Secretaries of the Physical Society would be glad to receive competitors' pseudonyms as soon as possible—at the latest, by the end of this year.

THE lecture on "Asthma," recently delivered at the Hospital by Dr. Arthur Henderson of Montreal, should prove of great help to those entering for the Treasurer's Prize. The subject in question has for so long now been the stronghold of a species of medical *Potterism* that Dr. Henderson's definite indictment of face powder, feathers and feline fur, delivered in a scholarly style reminiscent of Sir Arthur Keith, came as a refreshing change to the usual generalities. To judge from the applause at the conclusion of the lecture the speaker managed to convince even the most sceptical. Cats' and cosmetics, we should say, are in for a distinct slump.

IT has been decided at a recent meeting of the Residents to hold the Annual Residents' Ball in January next. No definite date has been fixed yet, but we understand that a Committee has been

formed and is getting busy with detailed arrangements. The time for preparation is short and the month chosen is one already very full with terpsichorean appointments, but we wish the Committee every success in their efforts. Further details will, no doubt, be available in due course.

THE Massage Department are to be congratulated on the excellent organisation of their recent Wednesday evening dance. The gathering at "Les Gobelins," graced by the presence of Matron and Dr. Douthwaite, was in every way a great success. Ladies of the Department, reinforced by the brighter sparks of the electrical school, were free from the restriction of their everyday uniform, and dazzled with a degree of decolleté that did considerably more damage to our hearts than the price of the tickets to our pockets. We trust this effort marks the inauguration of a regular feature which should do much to enliven the social aridity that seems to have settled on us of late.

Guy's Hospital Employees' Association Dinner.

THE Annual Dinner of the Employees' Association was held at the Bridge House Hotel on Thursday, November 22nd. Mr. Eason, as President of the Association, was in the Chair, and about 140 members and guests were present. An excellent dinner and entertainment were provided, and the pleasure of the evening was enhanced by the quality and brevity of the speeches. Mr. E. D. Proudbeck, the magician, and his chameleon-like waistcoat caused several present to query the quantity of wine they had taken.

After drinking to the health of the King and Royal Family, the President introduced the proposer of the toast "Guy's Hospital and Schools," as the technical adviser to many families, Mr. G. Bellingham Smith, who received a warm welcome. Mr. Bellingham Smith looked back 40 years and reminded his hearers that Mr. Lushington was then in the Superintendent's Office; that telephones were not in existence, and instead of House Officers 'phoning the Staff about matters "take-in" and emergency, bath-men were sent in hansom cabs to the houses of the Staff, and that the reply was generally the same as now—Carry on! The President's watch on the table before him caught his eye and, coupling the name of Mr. R. P. Rowlands with the toast, Mr. Bellingham Smith ended his all too short reminiscences amidst a hearty round of applause.

In reply Mr. Rowlands said that only his age could have earned him this honour. This was denied by the audience. He said that he and Dr. French had been appointed to the Staff the same day, and that Dr. French had tendered his resignation to date from March next year. Mr. Rowlands said that the finances of the Hospital were sound, but that more money was needed for extension of the good work. The entry to the School had been better this winter than for several past years, and the students had come from school and 'varsity at home and abroad. The Hospital was essentially democratic, both for student and employee, birth and nationality not making the least difference to the welcome received. Mr. Rowlands also reminded his listeners that Guy's was the most economically run hospital in the world.

At 9 p.m. the toast "Absent Friends" was drunk.

Mr. Eason, in proposing the toast "Guy's Hospital Employees' Association," said that this was the annual and only occasion of the year when the employees patted their own backs. The President reminded his Association that the employees swallowed £27,000 per annum out of a total expenditure of £170,000, or, in shillings and pence, 2*s*. 7*d*. of every £1. He also reminded the guests that every two patients take three people to look after them—600 patients and 900 employees. Mr. Eason then spoke of the death of Mr. Mills, an employee since 1866, and expressed great regret at the loss to the Hospital. Since the Hospital was founded in 1725, Guy's had had 14 Matrons, of whom 7 were still alive. He suggested that if they lived through the worry and bustle of hospital life, then nothing could kill them. In 1879 one Matron by her actions had nearly wrecked the Hospital, and was the cause of several of the Staff resigning. Her epitaph in the Chapel, "She hath done what she could," was well earned. The President then inquired what Mr. Pullin had done to the fuses the night before Dr. Iredell's accident, and where the electrician was when the accident occurred. He reminded Mr. Robbins, the Chairman of the Association, that he not only looked after the Hospital records, but also had charge of some fine old port in the strong room.

Mr. Robbins in reply said that to his knowledge the port was 50 years old and still intact. He suggested that the President should sample it with him. The membership of the Association at the present time was 107, leaving a big space for improvement. He expressed the Association's grati-

tude to the Governors and Staff for their generosity in providing a Recreation Room and to Mr. Evans for his interesting lecture on Deep Sea Life. The outdoor scope of the Association was limited by lack of a ground, and thanks were due to the Clubs' Union Council for the use of tennis courts at Honor Oak. Entries for the Tennis Tournaments were good, and the standard of play had been up to the average. Two matches had been played: Against the Students, lost; against Adelaide House, away, won.

Mrs. F. Cook very kindly consented to present the prizes, but as there had already been four speeches, decided to say nothing.

A very pleasant and happy evening ended with all joining hands and singing *Auld Lang Syne*.

Tournament Winners

Ladies' Singles (*Beddard Cup*)—Miss Jupp.
Ladies' Doubles—Misses Goodall and Sprigg.
Men's Singles (*Fawcett Cup*)—Mr. Ireland.
Men's Doubles—Messrs. Cook and King.

Gastro-Jejunostomy.

Abstract of a Clinical Lecture by R. P. Rowlands, Esq., M.S.

GENTLEMEN,—At the operation of gastro-jejunostomy an opening is made between the stomach and the upper part of the jejunum; it is the chief form of gastro-enterostomy which, however, includes gastro-duodenostomy. I am going to limit my remarks to-day to gastro-jejunostomy.

This operation when well done, and only for suitable cases, is a very valuable one, and is attended with a low mortality—under 1 per cent.—and excellent results. Sherren* claimed over 90 per cent. of cures in cases of simple chronic gastric and duodenal ulcer. But it should never be performed without due consideration or in the absence of definite visible or palpable disease or obstruction of the stomach or duodenum. The greatest care should be taken to make the anastomosis as perfect as possible, in order to avoid obstruction or ulceration at or near the stoma. Whenever practicable the posterior operation is the best to adopt, because it affords better drainage and is attended by better results. When the posterior wall of the stomach is adherent a retro-colic anterior gastro-jejunostomy may be performed after Sherren's method, and when the transverse mesocolon is too short or too fat an entero-colic posterior gastro-jejunostomy can be performed with advantage.

Indications—

(1) Pyloric or duodenal stenosis or obstruction unsuitable for a local operation, such as that of Finney.

(2) Chronic duodenal ulcer, especially when large, adherent or posterior and unsuitable for local resection. Gastro-jejunostomy reduces the hyperchlorhydria and rests the duodenum better than gastro-duodenostomy.

(3) Low hour-glass contraction, too low for satisfactory gastro-gastrostomy.

(4) Chronic gastric ulcers, which either cannot be removed without undue risk or do not need excision.

(5) Carcinoma of the stomach, irremovable but obstructing.

Technique of the Posterior Operation—

I want to lay stress upon the following points, which, I believe, to be important. The stoma, at least 2½ inches long, should be made at the lowest part of the stomach, vertically below the œsophagus, and its longitudinal axis should run horizontally and not vertically; it is not enough to have one end of the stoma at the lowest part of the greater curvature, it is better to have all the stoma low down. Moreover, the vertical application of the jejunum to the back of the stomach is liable to kink the jejunum. The jejunal loop engaged in the anastomosis must lie comfortably, without kinking, torsion, tension or too much slack above the anastomosis. The margin of the opening in the transverse mesocolon should be sewn to the stomach well away from the anastomosis, so that the jejunum may not be drawn up or engaged in adhesions and kinked, and for the same reason the raw edges of the opening in the mesocolon should be turned up towards the lesser sac. The parts engaged in the anastomosis should be handled with the greatest gentleness and asepsis, the clamps used must not damage the stomach or jejunum, only fine catgut should be used for the sutures, and none of the mucosa of the stomach or jejunum should be removed, otherwise raw surfaces may be left exposed to the digestive action of the gastric juice and become gastro-jejunal ulcers.

The Complications of Gastro-Jejunostomy and how to avoid them—

(1) Hæmorrhage is preventable by careful and accurate sewing with reliable catgut.

* Bradshaw Lecture, *Lancet*, 1925, Vol. ii, p. 1007.

(2) Intestinal obstruction, including regurgitant vomiting or vicious circle, is preventable by taking sufficient trouble to make the anastomosis as perfect as possible in every way—making the stoma large enough and in the right place without torsion or kinking of the jejunum. It is important to do everything possible to prevent secondary displacement from adhesions at, or near, the anastomosis. If the parts engaged in the anastomosis do not lie comfortably it is better immediately to add entero-anastomosis than to run the risk of vicious circle and the need of a secondary operation; entero-anastomosis is rarely followed by any disadvantage.

(3) Gastro-jejunal, or jejunal ulceration, are to be prevented by making the stoma a perfect one, without any obstruction, by avoiding raw surfaces and unabsorbable sutures, and, above all, by careful and prolonged after treatment by rest and dieting.

My house surgeon, Mr. de Bruyn, has kindly abstracted the notes of the two cases used for this lecture.

CASE 1, GASTRIC ULCER, POSTERIOR GASTRO-JEJUNOSTOMY, APPENDICECTOMY

James T——, aged 42, dock labourer (attended the Clinical Lecture 14 days after his operation).

Presented himself at Dr. Ryle's Medical O.P. on *August 2nd*, 1928, complaining of epigastric pain, which came on about one hour after meals. Symptoms had commenced nine months previously and he was losing weight. His teeth were very septic, there was occult blood in the stools, and X-ray examinations showed a deformity of the pylorus.

On September 30th, 1928, *he was admitted into Naaman.*

The patient was anxious to undergo an operation as he was a working man and prolonged dieting and rest were practically impossible.

On examination he was tender in the epigastrium and in the right iliac fossa. There was a little occult blood in his stools; test meal showed relatively high HCl with some delay.

H.B. 55 per cent. (*not transfused*).

On October 4th, 1928, *the operation was performed.*

The appendix showed evidence of recent inflammation. The pylorus was deformed from an old healed ulcer. There was a large active ulcer high up on the lesser curvature and extending down the posterior wall of the stomach and penetrating the pancreas.

Appendicectomy and gastro-jejunostomy were performed.

The patient did well and was sent to Bexhill Convalescent Home on a strict and careful diet on *October 21st*, 1928.

Comments on Case 1—

Resection of a chronic gastric ulcer is desirable, when it can be safely performed, because the ulcer may become, or be already, carcinomatous. In this case, however, the ulcer, although large, did not have hard or elevated edges; moreover, it was penetrating the pancreas and adherent to the large branches of the cœliac axis. In addition, the patient was in a bad general condition, therefore I decided against resection. The mortality of partial gastrectomy in such cases is about 7 per cent. as compared with 1 per cent. for gastro-jejunostomy. The posterior gastro-jejunostomy extended to the left of the ulcer and was of large size, running near the lower border of the stomach. It is essential for the stoma to be placed proximally to the ulcer. The severe spasmodic pain which had been associated with the ulcer was abolished immediately, and the patient's condition rapidly improved because he was able to take more food without discomfort. Distension and spasm of the stomach are prevented by a large and new exit from the stomach. My experience is that chronic gastric ulcers heal after a good gastro-jejunostomy. I think it necessary to remove the appendix whenever possible in cases of gastric or duodenal ulcer because it is a potent source of infection and has considerable bearing upon the pathology of all kinds of peptic ulceration; moreover, it is worth while preventing any possible risk of appendicitis in the future.

CASE 2, DUODENAL ULCER, POSTERIOR GASTRO-JEJUNOSTOMY

John W——, aged 74, retired plumber (*admitted into Naaman Ward on September 8th*, 1928).

Complained of epigastric pain which came on 2–3 hours after meals and was relieved by food and vomiting.

Symptoms had commenced about 20 years ago. In 1918 he was in John Ward under Dr. Fawcett. It was thought then that he had pyloric stenosis and an operation was advised, but this the patient refused.

In 1925 he was admitted into Stephen under Dr. Beddard. The presence of a duodenal ulcer was definitely established and the patient was sent home having definitely improved under medical treatment.

The patient had always been very constipated, but there was never any evidence of lead poisoning.

Symptoms recurred towards the end of 1927 and, in addition to pain, he vomited frequently. Six weeks previous to his admission into Naaman he had a severe hæmatemesis.

On admission, hæmoglobin 30 per cent.; teeth very septic.

Alimentary X-ray showed deformity of pylorus with delay on emptying.

Test meal showed a low HCl with definite delay and bleeding. Occult blood in the stools.

All teeth were extracted, and before operation he was transfused (1 pint).

Operation September 17th, 1928.

There was a large duodenal ulcer with pyloric stenosis. Posterior gastro-jejunostomy.

Very slow recovery; œdema of legs and scrotum from cardiac failure.

Discharged doing well on October 27th, 1928.

Comments on Case 2—

This patient ought to have submitted to operation many years ago; he would then have avoided years of pain and indigestion and also the recent grave hæmorrhage and stenosis, which at last nearly put an end to his life. The man was so ill in spite of transfusion that it appeared necessary to waste no time at the operation; under these circumstances the large adherent posterior duodenal ulcer causing stenosis was unsuitable for any local operation, such as Finney's operation or gastro-duodenostomy; moreover, there is not the same need for the removal of duodenal ulcer which, unlike gastric ulcer, rarely if ever becomes malignant. The stomach was so large and œdematous that posterior gastro-jejunostomy afforded the most effective drainage of the dilated stomach, and the greatest rest to the duodenum, with the best prospect of healing the duodenal ulcer without delay or recurrence of bleeding. There appeared to be no indication for partial gastrectomy in this case, there being no hyperchlorhydria; moreover, this operation would have been too severe and risky for this feeble old man.

The Pentastichs of Triptolemus.

(Transcribed from the *Unique* and *Well-preserved* **MS** at Guy's Hospital.)

WOE is me that I was born to toil and fence
In an age of scientific insolence,
I, so fitted for the childhood
Of the race in tropic wildhood
Or the golden age of chastened common sense.

Where the phantom flares of science cannot blind
One of Nature's true disciples, there, I find,
Her serene and self-revealing,
While I tend my lonely shieling
With a simple unsophisticated mind.

And the lore that I have gained in field and pen
Will be lost in dust and silence once again.
For there isn't the remotest
Chance that this inspired protest
Will be honoured in the parleyings of men.

But though few or none may heed my scrannel pipe,
Truth shall triumph when the blundering earth is ripe,
For some mighty demagogue, an
Arch-apostle of the slogan
"Back to Nature" for the saving of the type.

Back to Nature. From the hour that we are weaned
We are ruined by the sterlising fiend.
Soon the old and tried defences
Will be scarce as common sense is,
And the race will die from being overcleaned.

Dirt's what saves the hiving millions of the slums,
And the stuff that clings to foundling sweets and crumbs
Beats all immunising serum;
Hoc est paradoxum rerum,
Nameless vitamins are licked from grimy thumbs.

Food and plate should be as clean as coat or skirt.
Not a sterile stuff. Too much we boil and flirt
Sprays of lysol and carbolic.
Hark! the mandate apostolic:
"Every man must eat his saving peck of dirt."

And though Medicine may grow from more to more,
Piling mountain-high its therapeutic lore,
It will never oust diseases
Till earth's final rigour freezes
Lingering life within the last bacterial spore.

Did not Nature institute the labial kiss,
And ensure its perennation with a bliss,
Just to propagate, *per ora*,
Our ordained gingival flora,
Lest the race its safe inheritance should miss?

Yet you make a tender mite of two or three
Scrub into his bleeding gums with savage glee
Your corrosive dentifrices;
And the little pervert ceases
With his jaws benumbed by chemocautery.

·WRAPS·GOWNS·CLOAKS·
·for·Theatre·Wear·
Large Variety. Latest Designs.
In an extensive range of durable fabrics – crash, repp, 'twill and 'twont.
An attractive gown well-tailored on plain lines; simple, yet not severe.
An elegant design, open down the back to reveal an under-bodice in contrasting tone; with short sleeves and a novel motif of small bows.
H1.
"Sartorius"
"Saphenus"
H3
A few exclusive models with hand stencilled designs in the new shades- "Sang-de-bœuf." (oxy-hb) and "Sang froid."
In shades of Beige, Drab, Fawn, Biscuit, Putty, Ivory and White.
H.2
"Ernie."
H.4.
"Stoke Pages."
Sizes to suit all figures.
Small Men's.
Men's.
Large Mens. &
O.S.
F.C.T. 1028.

With a hundred pointed bristles you instil—
Mixed with antiseptic mucks that never kill—
Alien dosages of sepsis;
And this drilling holes for streps is
Why some humourist has called it "Tooth Brush Drill!"

Back to Nature with the households that are run
With the sacramental duties left undone.
What with bishops half agreeing,
Even the plebs have turned foreseeing,
And leaves accidental progeny or none.

Every spring such malefactors should be sent
For a moral cure in rural banishment.
Till the cows and birds and rabbits
Teach them purer human habits
'Midst the decency of Nature's old intent.

There, afield, the law is stern and holy writ,
Nature's law of propagation infinite;
And she always finds the plenty,
Send she ten or send she twenty—
Or, if not, the few remaining will be fit.

When I put the human virtues to the test,
Fruitfulness comes first, and nowhere all the rest.
Yea, to me, of all things human
Loveliest seems a buxom woman
Fondling twins ascramble for the mother's breast.

Back to Nature with the qualing wives who creep
Into motherhood by selfish ways and cheap.
Back, to win the honour trifled
With, and functions that are stifled
During bouts of scopolaminated sleep.

Anæsthesia, upstart goddess, she has slain
Life's most faithful guard and trusted bugler—Pain.
And the citadel's resources
Palsied lie, while hostile forces
Storm the battlements unchecked, and strike amain.

Abnormal? Norms are figments dreamt by fools.
Nature works with most amazing sets of tools.
And there are no normal persons;
There are better types and worse 'uns.
And exceptions do not prove—they *are* the rules.

One man starves on what keeps other folk alive,
And the filth in which a Crow papoose will thrive
For a Duchess would be septic.
Don't forget an epileptic
Ravaged Europe with a pulse of forty-five.

"Life, I know not what thou art," the poet saith,
"But an eddy of the all-creative breath."
And the men of science chatter
Of this thing that, striding matter,
Dares disaster through the million darts of death.

Some give years of vain endeavouring to spell
Life's conundrum in the dead and pickled cell.
Some seek wisdom of Amœba,
But, unlike the Queen of Sheba,
Find *that* little Solomon has none to tell.

Others try experiment and set the switch
On a tissue bathed in Ringer, trace the twitch,
And would be as near to getting
At the vital secret's setting
If they prodded dying donkeys in a ditch.

When they've linked up all the proteins, and massed
Them in polyphasic systems, then at last
They will crown the great endeavour,
They will stand and wait for ever
For the magic of the living protoplast.

Would that someone gained the technic competence
To make cultures of the genes of common sense,
And inject a few with cannules
In among the Nissl granules
Of our seekers for the vital how and whence.

"Life, we know not what thou art" will be the wail
When the biochemist's news are old and stale;
But the man will still be frothing
Many a wise and pregnant nothing
With his back to life's impenetrable veil.

Guy's Hospital Gazette.

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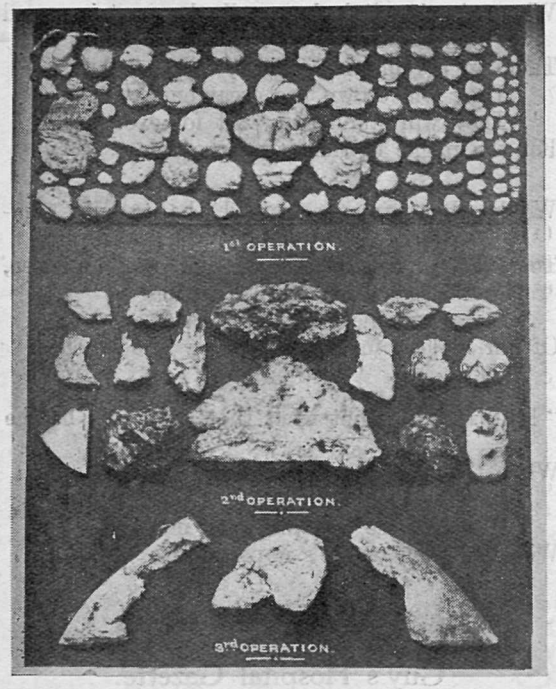
Odontomes.

A Clinical Lecture by J. Lewin Payne, Esq., L.D.S.

GENTLEMEN,—Many years ago the late Mr. Douglas Gabell, Mr. Warwick James and I undertook to gather together from various parts of the world all the available specimens of odontomes and abnormally shaped teeth for the purpose of forming a museum in connection with an annual meeting of the British Dental Association.

We felt that by bringing together a large number of such specimens and by comparing the various pathological conditions which occur in tooth tumours we might be able to obtain a clearer idea of their origin and their pathological significance.



Altogether, we collected more than 350 examples, and before the meeting of the British Dental Association concluded, we were asked to examine the specimens more closely and to investigate and classify some new types which had not been described previously.

In attempting to arrange the specimens in various groups we met with considerable difficulty. Some of the tooth tumours could not be placed satisfactorily into any of the groups described under the old classifications.

At the outset, let us bear in mind that odontomes and abnormally shaped teeth are closely allied, and it is not easy to determine where the line of demarcation should be drawn, nor, indeed, whether it is desirable to attempt a definite sharp division between these pathological conditions at all.

Some of you may recall the old classifications under which Professor Broca and Sir John Bland-Sutton have grouped odontomes. Professor Broca based his classification, which he introduced in 1869, upon the degree of development of the tooth at the time when the abnormal growth commenced.

He divided them into four groups, as follows:—

(1) *Odontomes Embryoplastiques*—

Those arising during the early stages of development before the membrana eboris is formed.

(2) *Odontomes Odontoplastiques*—

Those arising after the formation of the membrana eboris and the formative elements of the enamel.

(3) *Odontomes Coronaires*—

Those arising during the formation of the crown of the tooth.

(4) *Odontomes Radiculaires*—

Those arising subsequent to the completion of the crown, and therefore causing only a deformity of the root.

Sir John Bland-Sutton recognised the defects of this classification, and, in 1887, substituted one which was based upon the particular cells of the tooth germ which had undergone aberration during the process of development.

He divided them into five groups:—

(*a*) *Aberrations of the Enamel Organ*—
- (i) Epithelial Odontomes;
- (ii) Calcified Epithelial Odontomes.

(*b*) *Aberrations of the Follicle*—
- (i) Follicular Cysts;
- (ii) Fibrous Odontomes;
- (iii) Cementomata.

(*c*) *Aberrations of the Papilla*—

Radicular Odontomes.
- (i) Dentomata;
- (ii) Osteo Dentomata;
- (iii) Cementomata.

(*d*) *Aberrations of the Whole Tooth Germ*—

Composite Odontomes.

(*e*) *Anomalous Odontomes.*

It was Bland-Sutton who first included certain cystic formations and fibrous tumours of the jaws

among odontomes, and he also suggested the following definition :—

"An odontome is a neoplasm composed of dental tissues in varying proportions and different degrees of development, arising from tooth germs or teeth still in the process of growth."

In my opinion, however, the definition given in the *Report on Odontomes* is better, for it embraces the whole subject and has this to recommend it to the ordinary student—it is short :—

"An Odontome is a tumour derived from the special cells concerned in tooth development."

An odontome is a tumour because :—

(1) It is a mass of new formation which tends to grow or, at least, to persist ;

(2) It fulfils no physiological function ;

(3) It has no typical termination.

A classification which is based upon ætiology would be the most satisfactory, but the ætiology of odontomes is not yet understood, and this is not surprising, for we do not know the cause of other tumours. Various suggestions have been made such as trauma, prolonged irritation, and mechanical interference with the tissues. But these alone do not suffice to account for the conditions we find.

We recall the fact that the normal process in the development of a tooth is primarily dependent upon active changes in the epiblast cells. Secondary to this, and dependent upon it, changes occur in the subjacent mesoblastic tissue. These changes will affect both the dental papilla and the tooth follicle.

It is generally recognised that the enamel organ has a double function, for, besides producing enamel, it determines the external shape of the dentine, even in cases where no enamel is formed.

In other words, the dentine is dependent upon the presence of an enamel organ. Therefore, in odontomes where dentine is present, the aberration must have occurred primarily in the enamel organ.

This fact, together with the discovery of an epithelial lining in certain cysts, and the investigation of a large number of specimens led to a modification in the classification laid down by Bland-Sutton, and the following new classification was suggested by the Committee appointed by the British Dental Association :—

(1) *Epithelial Odontomes*—

Where the abnormal development takes place in the dental epithelium alone :—

Multilocular Cysts ;
Dentigerous Cysts ;
Dental Cysts.

(2) *Composite Odontomes*—

Where the abnormal development takes place primarily in the dental epithelium, and, secondarily, in the dental papilla, and may occur in the follicle also.

(*a*) Where the abnormal development of the dental epithelium results in the formation of numerous irregular dental papillæ, which are calcified in one mass, or sporadically :—

Complex Composite Odontomes ;
Compound Composite Odontomes.

(*b*) Where the abnormal development of the dental epithelium is such that the formation of two or more tooth-like dental papillæ results and are calcified as one mass :—

Geminated Composite Odontomes ;
Gestant Composite Odontomes ;
Enamel Nodules.

(*c*) Where the abnormal development of the dental epithelium results in the formation of a dilated portion of the dental papilla which is calcified as one mass :—

Dilated Composite Odontomes.

(3) *Connective Tissue Odontomes*—

Where the abnormal development takes place in the dental tissues of mesoblastic origin alone :—

Fibrous Odontomes ;
Cementomes.

(4) *Malignant Odontomes*—

Malignant tumours have been described as arising from embryonic dental tissues, but they have yet to be completely established.

Objection has been raised to the inclusion of certain types in the above classification on the ground that they are not true neoplasms—*i.e.*, ordinary tumours—exhibiting independent localised growth and arising as the result of stimulus extrinsic in origin. It is asserted that abnormal teeth arise from abnormality of development, that they are inherited, and therefore arise from an intrinsic cause.

Admittedly, it is often difficult to determine whether some specimens are just abnormally developed teeth or whether they are true odontomes.

Professor Nicholson has made some very valuable contributions to the study of neoplasms. He regards them as aborted organs, and states that there is no real distinction between tumours on the one hand and accessory organs, and malformations, on the other. The structure, manner of growth, and functions of tumours do not differ essentially from other tissues. They merge into, and indeed are, malformations.

Cohnheim enunciated the dictum that the development and growth of a normal individual depends upon the orderly co-relation of its parts,

and whilst we cannot explain the inception of abnormalities it is generally admitted that they depend upon some defective co-relation of the parts of the organ, and it is here that the congenital tissue malformations merge imperceptibly with certain types of neoplasms.

It would seem desirable to consider all abnormalities of the teeth in the light of neoplasms, and, for the time being, to group them together. Long ago, Albrecht taught that all tumours are malformations, and that many cannot be separated from hyperplasia and other abnormalities of growth, and so odontomes, being essentially abnormalities of growth, should be compared, and perhaps classified also, with abnormalities of the teeth of a lesser degree. They may be remnants of accessory organs or of a disarrangement of embryonic tissues. They may well be linked with the study of teratological structures.

An important point in the study of odontomes is the light which they throw upon the ætiology of morbid growths generally.

(I) EPITHELIAL ODONTOMES

The first main group has been called Epithelial Odontomes, and in these the abnormal development takes place in the dental epithelium alone. They might well have been termed cystic odontomes. Formerly this class included only multilocular cysts; but dentigerous cysts and dental cysts have been added because they are of similar origin, and the three types possess so many characteristics in common that they should certainly be placed together.

The *Multilocular Cyst*, as its name suggests, forms numerous cystic cavities. If you search through various text books you will find that the following names also have been used in connection with the tumour :—

Epithelial Odontome, Fibro-cystic Tumour of the Jaw, Cystic Adenoma, Proliferating Follicular Cystoma, Cystic Epithelioma and Cystic Sarcoma. They are more commonly found in women than in men.

Bland-Sutton is of the opinion that some of the cysts described as multilocular are really endotheliomata.

They are usually large tumours, consisting of several cysts lined by epithelium and separated from one another by fibrous, or bony, septa. They are not often recognised in the early stages.

Malassez, many years ago, pointed out that they have a similar origin to dental and dentigerous cysts, and that they arise from an over-growth of paradental epithelium at a comparatively early stage.

Figure 1, shows a Hindu lady with a multilocular cyst, of 10 years' duration.

FIG. 1

Hindu lady, aged 30 years. Duration of tumour, 10 years. A—The place where the skin was ulcerated as the result of applying some irritating paste—From Paper by T. S. Tirumurti, *Brit. Dent. Journ.*, November 15th, 1913.

Figure 2, shows the histological appearance of a section of this tumour under the lower power of the microscope.

FIG. 2

Low power. A, Cell masses ; B, fibrous stroma between the masses of cells ; C, osteoid tissue; D, a single layer of columnar cells at the periphery of the cell masses ; E, cells of a myxomatous type in the centre forming a stellate reticulum ; F, cells resembling horny epithelium ; G, granular matter.—From Paper by T. S. Tirumurti, *Brit. Dent. Journ.*, November 15th, 1913.

Figure 3, shows cysts of varying size in a multilocular tumour, which has been cut in half.

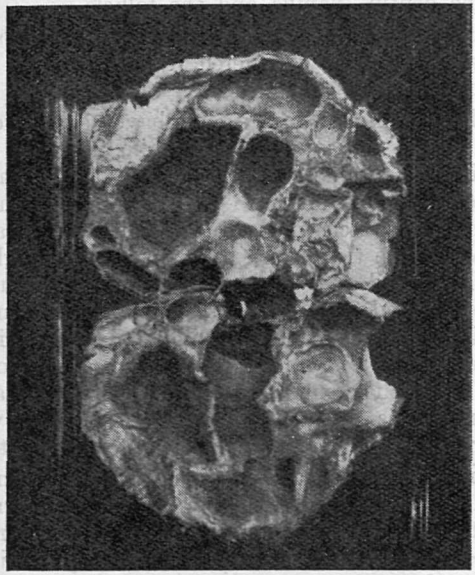


FIG. 3

Dentigerous Cysts are described as innocent cystic tumours arising from dental epithelium and connected with unerupted teeth.

They appear to arise, at, or about the period of eruption, by proliferation and degeneration of the tooth band or the enamel organ.

Mr. Evelyn Sprawson has shown that many of them arise, like the dental cyst, as a result of irritation produced by infection in the immediate neighbourhood. He states that the cause is usually from an infected deciduous tooth. Mr. Sprawson's view is that the cyst meets and surrounds an adjacent developing unerupted tooth, gradually enveloping it.

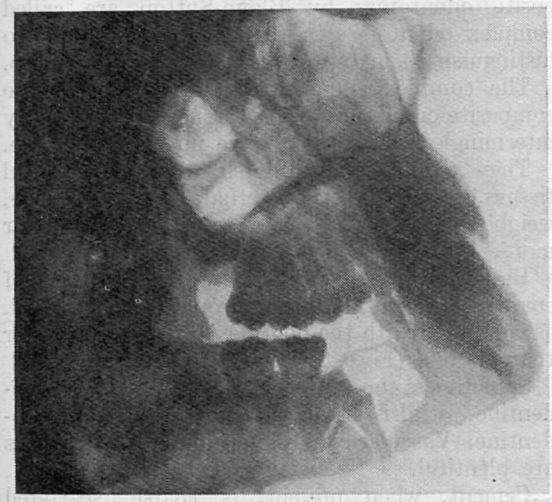


FIG 4

Dr. Douglas Guthrie, in the *Proceedings of the Royal Society of Medicine*, has suggested that, in some cases, trauma is the determining factor in producing the proliferation of the paradental epithelium.

The crown of the unerupted tooth usually projects into the cystic cavity, (Fig. 5), and the teeth most often affected are those which are commonly delayed, or fail to erupt.

FIG. 5

Section of a dentigerous cyst, showing a thick capsule. The attachment of the capsule to the neck of the tooth is clearly shown. Specimen 2196, Royal College of Surgeons Museum.

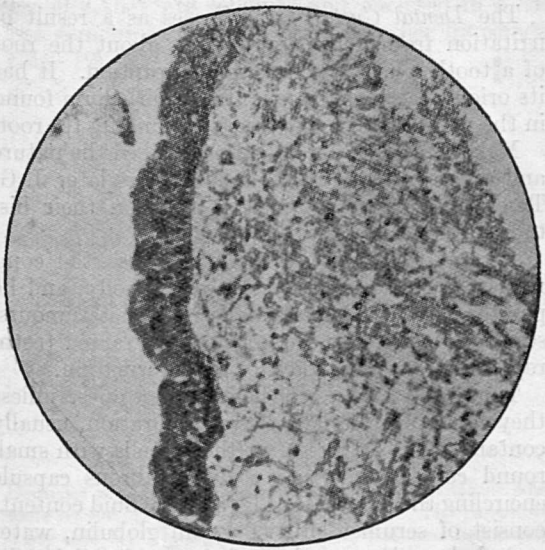


FIG. 6

Microscopical section of cyst wall from dentigerous cyst.

A few days ago, I was called upon to deal with a case of dentigerous cyst connected with a left lower first premolar in a girl aged 16.

The tooth was deeply situated in the mandible. Indeed, the uncompleted root of the tooth ex-

tended down to the basilar border of the jaw, and a swelling could be felt from outside.

The second premolar, also, was unerupted, and apparently had been blocked by the cyst connected with the other premolar.

The accompanying radiograph, Fig. 4, illustrates the condition before the operation.

FIG. 7

A dental cyst *in situ* from a case of Mr. James

The *Dental Cyst*, (Fig. 7), arises as a result of irritation from dental epithelium about the root of a tooth which has undergone eruption. It has its origin in the last remnants of epithelium found in the periodontal membrane surrounding the root.

Malassez, in 1885, correctly described the nature and origin of these cysts, and 13 years later J. G. Turner did some valuable work upon their histology and chemistry.

Turner described the dental cyst as the commonest of all tumours found in the body, and he pointed out the fact that epithelial root tumours, so often found near the apices of extracted teeth, represent an early stage of cyst formation.

The walls of the epithelial odontomes, unless they have been damaged by suppuration, usually contain several layers of epithelial cells with small round cells outside and a dense fibrous capsule encircling the whole, (see Fig. 5). The fluid contents consist of serum albumen, serum globulin, water and cholesterin crystals, and are produced by the constant breaking down of the epithelium on the internal surface of the cyst wall.

(II) COMPOSITE ODONTOMES

The second main group has been called composite odontomes, and it is no longer restricted to the irregular calcified masses of Bland-Sutton's classification. It embraces all those tumours in which the abnormal development takes place, primarily in the dental epithelium and secondarily in the dentine papilla and the follicle.

Composite odontomes are calcified tooth tumours consisting of a disordered conglomeration of enamel, dentine and cement.

The types found in this class have been divided into three sub-groups, which include all the calcified odontomes, with the exception of cementomes. In the first sub-group are found those odontomes which present no definite shape, and in which the tissues are irregularly intermingled. In the second, two or more tooth germs are fused together, and the third sub-group contains abnormalities brought about by a dilated dental papilla. Some composite odontomes do not begin to form until after the commencement of calcification, and when this is so one portion of the tumour will bear a resemblance to part of a normal tooth.

An important characteristic is that the arrangement of the dental tissues presents an abnormal relationship with regard to the position of the structures. Dentine and enamel are irregularly distributed and cement is often entirely absent. The quantity, and quality as well as the arrangement of the tissues, differ from those found in normal teeth. The enamel usually presents an increase in quantity; it is often granular and deeply pigmented.

The dentine may appear as a confused structure, or may be made up of some of the various forms of secondary dentine, When cement is present it is often non-laminated. It may contain vascular loops, channels, and some isolated lacunæ. A capsule of fibro-cellular structure is often found.

The odontomes which were described as composite odontomes by Bland-Sutton are called complex odontomes in the new classification, to distinguish them from other types in this group.

The complex composite odontomes are those composite odontomes whose tissues are irregularly intermingled, and which have no definite shape.

They consist of nodulated masses of dental tissues, varying in size from that of a small nodule, weighing a few grains, to a mass of 10 ounces or more.

Radial sections often show alternate layers of enamel and dentine. The proportion of enamel, as compared with the dentine, is relatively greater than normal (Figs. 8, 9 and 10).

Sometimes the dentine is folded as in plicidentine, whilst elsewhere it resembles osteodentine. Vascular canals and inter-globular spaces are plentiful.

Cement, when present, is coarse, scattered and irregular.

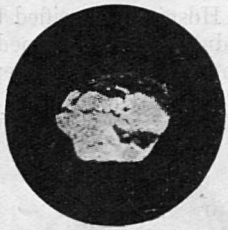


FIG. 8

Complex composite odontome, described by J. Lewin Payne, *Brit. Dent. Journ.*, 1904, p. 402.

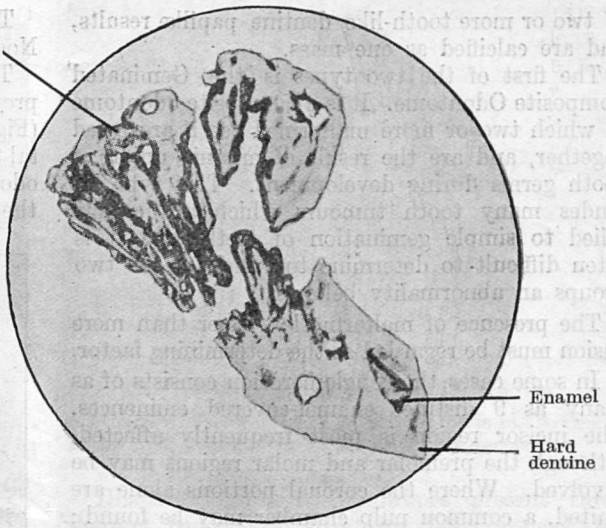


FIG. 9

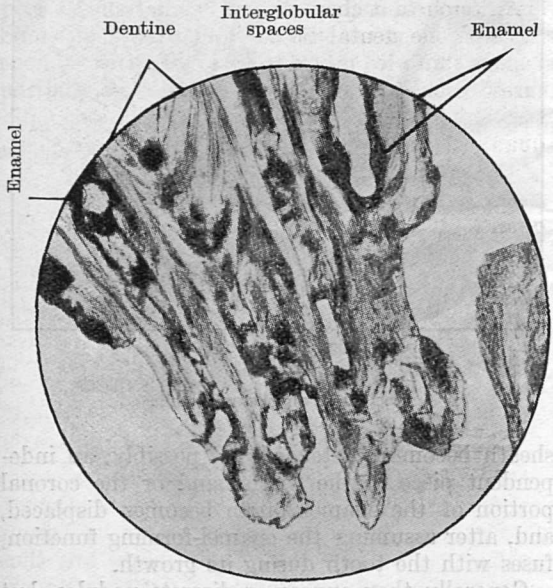


FIG. 10

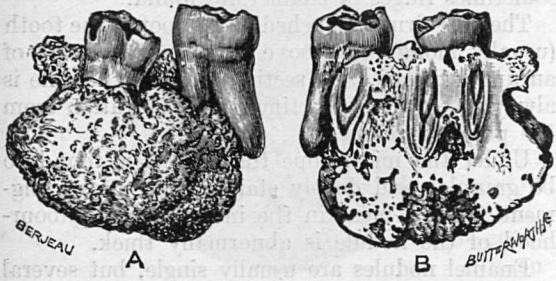


FIG. 11

Cementome from the left side of the mandible of a man aged 21.

Compound Composite Odontomes under Bland-Sutton's classification were called Compound Follicular Odontomes. They are tumours containing several separate calcified masses of dental tissue. The denticles vary in number. In the cases recorded, as few as 3 and as many as 500 denticles have been found in one tumour (Fig. 11).

In size, they vary from a mustard seed to a filbert nut. In shape, they may resemble a supernumerary tooth or an irregular mass such as one finds amongst the complex composite odontomes. Usually, they are separate and enclosed in a sac, but sometimes they are fused together by cement (Fig. 12).

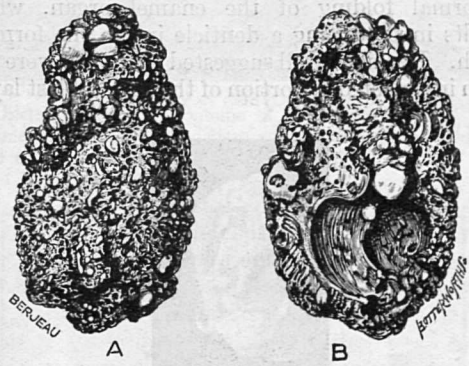


FIG. 12

Denticles and bone removed from a compound composite odontome by Dr. T. Ward Cousins of Southsea. The patient was a boy aged 11. The right side of the jaw was described as being "full of dental tissues, like plums in a cake."

They have been recorded in man and in some of the herbivora. They appear in youth and early adult life, and produce slow-growing, painless swellings.

(*b*) The second group of composite odontomes are those in which the normal development of the dental epithelium is such that the formation

of two or more tooth-like dentine papillæ results, and are calcified as one mass.

The first of the two types is the Geminated Composite Odontome. It is a composite odontome in which two or more malformed teeth are fused together, and are the result of organic union of tooth germs during development. This type includes many tooth tumours which are closely allied to simple gemination of teeth, and it is often difficult to determine to which of the two groups an abnormality belongs.

The presence of malformation other than mere fusion must be regarded as the determining factor.

In some cases, the conglomeration consists of as many as 9 distinct enamel-covered eminences. The incisor region is most frequently affected, although the premolar and molar regions may be involved. Where the coronal portions alone are united, a common pulp chamber may be found; where the roots alone are blended the pulp canals are distinct. Many of Broca's "Odontomes Coronaires" would be placed in this group.

The second type in this group is the Gestant Composite Odontome. This includes those odontomes in which a denticle is contained within, or is surrounded by, the walls of a tooth.

Broca described these as "Odontomes Odontoplastiques." Magitot used the term "Odontomes Bulbaires," whilst Hohl called them "Odontoma Internum Parietale" and "Odontoma Internum Liberum."

These odontomes are said to arise from an abnormal folding of the enamel organ, which results in producing a denticle inside the forming tooth. Herdigo Wedl suggested that they were due to an inversion of a portion of the odontoblast layer.

FIG. 13

A gestant composite odontome with a portion of the wall removed to show the denticle within.

They are mostly found in the incisor region, and erupt like an ordinary tooth except that they arrive later than the teeth in the corresponding region in the mouth. About 15 specimens of this type only have been recorded.

The last type of this sub-group includes Ename Nodules, sometimes called Epithelial Pearls.

They are enamel-covered excrescences of dentine projecting from the normal outline of the tooth (Fig. 14). James Salter, in 1874, when he was Dental Surgeon to Guy's Hospital, classified them as odontomes. These nodules may be formed during the growth of a tooth by a part of the epithelial

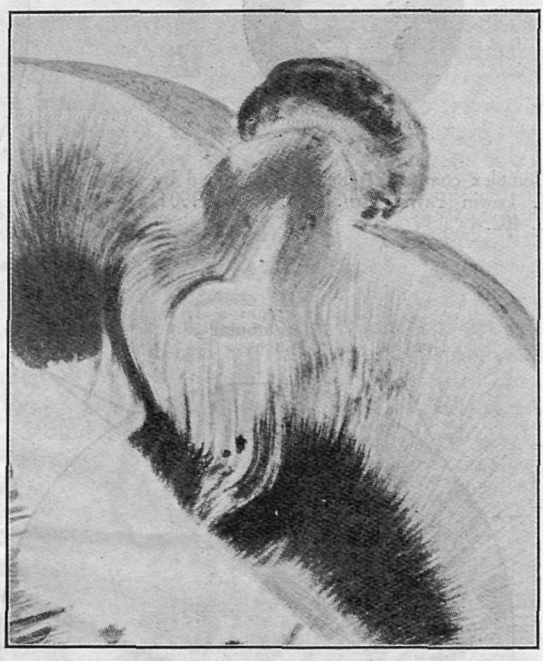


FIG. 14

Section of an enamel nodule

sheath becoming detached, or, possibly, an independent piece of the tooth band or the coronal portion of the enamel organ becomes displaced, and, after assuming the enamel-forming function, fuses with the tooth during its growth.

Generally, they appear as discrete nodules, but sometimes ridges of enamel are found.

They are firmly attached to the root of the tooth (usually along the groove between two roots of an upper molar). On section a core of dentine is always seen, and sometimes a prolongation from the pulp is present.

Under the microscope the enamel is found to be granular and deeply stained with brown pigment. The cement in the immediate neighbourhood of the nodule is abnormally thick.

Enamel nodules are usually single, but several may occur on one tooth. In some instances a nodule, presenting an irregular and rough surface, is situated upon the crown of a tooth. These have been described as coronal excrescences (Fig. 15).

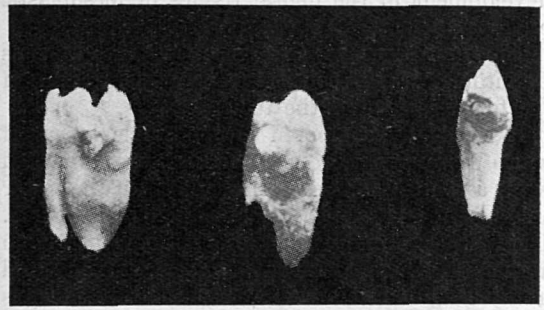


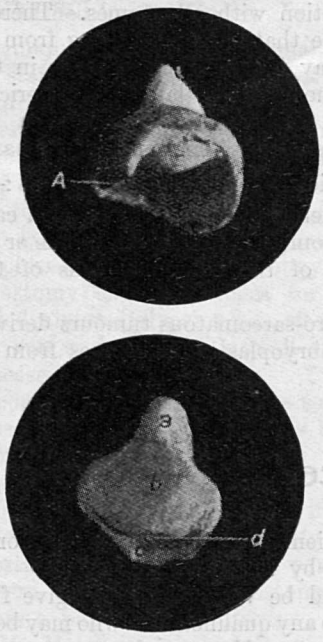
FIG. 15
Enamel excrescences on crowns of teeth

(*c*) The third form of composite odontomes consists of those which have the form of a dilated tooth, containing a hollow or a depression.

The name "Cavernous Composite Odontome," as well as the recognised title of "Dilated Composite Odontome," has been given to this group. Sometimes the hollow or depression, which corresponds with the root portion of the mass, is partially, or completely, filled in by calcified tissue.

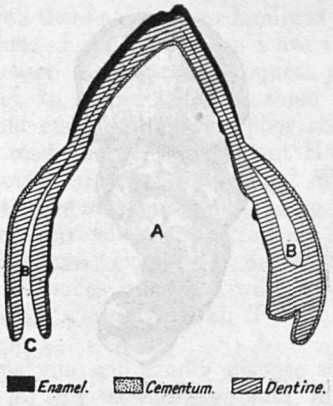
In Bland-Sutton's classifications these were called Radicular Odontomes.

FIG. 16
Type 1, Fusiform



(*a*) A dilated composite odontome of the fusiform type seen from below, showing a depression at the base.

(*b*) Side view of the same specimen.

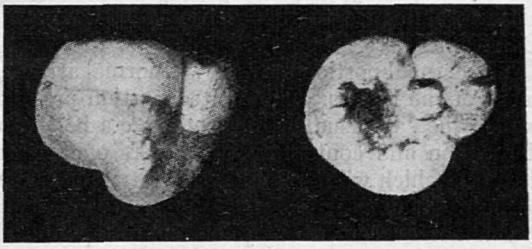


(*c*) Diagram of vertical section of the same specimen. A, Central hollow; B, pulp cavity; C, apical slit-like foramen.

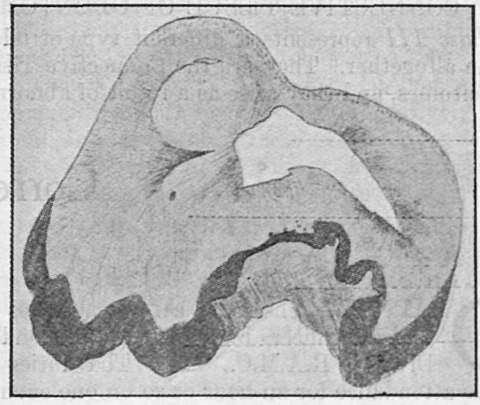
Dilated Composite Odontomes present three distinct types: (1) Fusiform, (2) Coronary, (3) Radicular (Figs. 16, 17 and 18).

In form they are more or less tooth-like; the circumference in some part of the mass shows a

FIG. 17
Type 2, Coronary



(*a*) Dilated composite odontome of the coronary type. This specimen illustrates the gradation between this group and geminated composite odontomes—*Trans. Odonto. Soc.*, 1906.



(*b*) Section of specimen shown in Fig. 15.

Fig. 18

Type 3, Radicular

Dilated composite odontome of the radicular type, removed by Hare of Limerick—*Trans. Odonto. Soc.*, 1863.

bulging of the walls, and the walls enclose a hollow or depression.

They are sometimes open, and sometimes filled, at the base. The coronal portion is covered by enamel; the root is variable.

The radicular part may be very bulky, or extremely stunted; the terminal edge is often inverted.

Microscopically, the minute structure bears a close resemblance to that of Complex Composite Odontomes.

The coronal portion may show a normal arrangement of the tissues. The dilated portion presents walls which are usually thin, enclosing a hollow or depression and containing two layers of dentine, between which will be found a thin irregular sheet of pulp tissue.

Enamel or cement may be found upon each layer of dentine.

When these tumours are of considerable bulk they are frequently found impacted below the normal level of the teeth.

(III) CONNECTIVE TISSUE OF ODONTOMES

Class III represents a different type of odontome altogether. They are the Connective Tissue Odontomes, and they arise as a result of abnormal development in the dental tissues of mesoblastic origin alone.

The first type in this group is the Fibrous Odontome, which consists of an overgrowth of the fibrous tissue of the tooth sac.

It is usually composed of concentric layers of white fibrous tissue surrounding, or connected with, a tooth. It is seen most often in the lower animals, and is said to be associated with rickets. The fibrous odontome must be distinguished from fibromata, which occur as endosteal tumours, and from those odontomes in which the adventitious capsules become thickened considerably.

Cementomes represent the second group in Class III. They are the calcified type of connective tissue odontomes, and are composed of cement. If other dental tissues are present they are normally arranged with regard to one another. The surface is extremely irregular. Microscopically the cementome is largely non-laminated, very vascular, with irregular channels, isolated lacunæ, and with a large quantity of clear matrix.

An irritation cementosis is markedly laminated, and there is a much closer resemblance to ordinary cement than in the case of a cementome. Cementomes occur more commonly in the lower animals than in man, and some attain enormous dimensions—larger, indeed, than any other form of calcified odontome.

Lastly, we come to the question of malignancy in connection with odontomes. There is reason to suppose that tumours arising from the dental tissues may become malignant as in the case of other tumours. The late Sir Frederick Eve was convinced of this and described a number of odontomes as possessing malignant characteristics.

He divided them into two groups:—

(1) Spheroidal, or columnar-celled carcinomata, derived from an epithelial odontome or direct from "Rests" of the columnar cells of the enamel organ.

(2) Fibro-sarcomatous tumours derived as composite embryoplastic odontomes from the dental papilla.

Correspondence.

R.A.M.C., T.A.

DEAR SIR,—There are a few vacancies for Medical Officers in the 47th (2nd London) Division R.A.M.C., T.A. The duties involve attendance for an hour or so on one evening most weeks and a fortnight's camp in the summer. During camp pay and allowances approximate to 27*s.* per diem, and a small fee is paid for all recruits admitted by the M.O.

I should be very pleased to give further particulars to any qualified man who may be interested.

Yours truly,

Guy's Hospital, HAROLD E. HARDING.
London, S.E.1.

November 11th, 1928.

A Letter from India.

[We have received the following communication sent to us by the Superintendent of the Hospital of St. John and St. Elizabeth, London, N.W.8, and publish it in the hope that some Guy's man practising near Koratti may see it.—ED.]

From,

Kammanakal Stephen Joseph,
Western Street,
Koratty P.O.,
Cochin State,
South India.

RESPECTED DEAR SIR,—I most humbly beg to bring to your kind notice the foling facts :—

I am a fervant Roman Catholic belonging to a very poor family Consisting of my father and two sisters. I am the only grown up son, who with the daily toil maintain my old father and two sisters. One of my sisters is attacked by fever since three weeks. Now I am also laid up by an old disease, which was occasionally troubling me. My disease is stomachache.

Now by all these attacks our family is subjected to starvation. I can't work for I am very week by my disease. So I humbly request you to be good enough to favour me with some medicines which would suit me and my poor sister. We sought for medicines in Government Hospitals in the neighbourhood. But all in vain. We are not able to get good medicines for charge since our poverty does not allow us. Now as I cam to understand from "Universe" dated 20th July 1928 that Catholics in illness will receive every attention from your Hospital, I seek for your help.

So I hope you will kindly dispose some good medicines for my stomachage and my sister's fever, free of charge for which we shall be praying for you. Hoping in Jesus Christs words i.e. "*Knock and you will be opened*"

I remain

Yours most faithfully

R. A. OUSEPH.

Keratty.
17–8–'28

Reviews.

Guy's Hospital Reports, April, 1928. Vol. 78, No. 2. Published by the *Lancet*. *Price* 12*s*. 6*d*.

THIS volume of the *Reports* maintains its usual standard of instructiveness. It consists of eight papers.

In the first, Mr. Barford produces from New Lodge a general review, with much statistical information, of the present state of knowledge with regard to gastric and duodenal ulcer. Incidentally, we learn from the author's facts rather than his expressed opinions that happy-go-lucky gastro-jejunostomy as a treatment for assorted uninvestigated abdominal pains has often proved in the long run a dangerous as well as an unpleasant disease.

In the second paper from the same source, Mr. Evans Jones gives details of 55 cases of unsuccessful gastro-jejunostomy from which the same conclusion seems inevitable.

In the third, Mr. Brock gives an interesting account of four cases of gastro-colic fistula, a rare condition certainly, but for the most part also an evil consequent upon gastro-jejunostomy.

Next comes a paper by Mr. Freezer, Professor Gibson and Mr. Matthews in which the neutralising effect outside the body of various basic or potentially basic substances, including milk, are quantitatively assayed as neutralisers of HCl. Milk appears to be very effective, which accords well with clinical observation. Bismuth receives the wooden spoon in the competition, and this is contrary to clinical experience. We suggest that the explanation lies in some other action of this substance besides mere neutralisation, and that it would be unwise on the whole to conclude that neutralisation in the stomach bears much relationship to what is observed in a test tube. In our experience, the stomach is rather a self-assertive organ.

In the fifth paper Mr. Hanson gives us a good deal of information about jaundice of the newly-born, and produces weighty evidence to show that the physiological and the grave familial forms differ quantitatively rather than qualitatively. A rational and successful treatment is given. So far as we are aware, all this is entirely original work, and deserves much credit accordingly.

In the next paper Mr. Blacker recounts the dreams of a really accomplished dreamer, and interprets them reasonably with a becoming lack of dogmatism. It is pleasing to note that the author frankly recognises that the interpretation of dreams is about as nebulous and insecure a subject as medicine would be, and, in fact, was, without the aid and corrective influence of the post-mortem room.

Mr. Baird then describes a very rare case of relapse following typhoid after an interval of 75 days. He gives reason, but not absolute proof that both attacks were due to the same strain of organism, and ends by casting considerable doubt on the ordinary methods of proving that a convalescent is not a carrier.

Finally, Mr. Gibberd recounts a case of epistaxis and hæmatoma of the vulva with pregnancy albuminuria, apparently a rare combination of events.

A Manual of Surgical Anatomy. By C. R. Whittaker. Pp. 471. Published by Messrs. E. & S. Livingstone, Edinburgh. *Price* 15*s.*

THIS handbook, which is apparently to be read if possible in conjunction with an examination of a dissected part, contains adequate information for revision for a qualifying examination. It is a pity that there are errors in a book of which this is the fourth edition—*e.g.*, neuralgia for neuroglia, p. 27, stylo-maxillary for stylo-mandibular, p. 130, and the omission of the outer cord of the brachial plexus in the diagram on p. 147. The statement on p. 358 that fibroids "are called sub-peritoneal, interstitial or submucous according to the coat from which they arise" is misleading.

The semi-diagrammatic way of enumerating the relations of vessels is useful as an aid to memory. The print is clear and the diagrams are very good in their simplicity.

The Extra Pharmacopœia of Martindale and Westcott. Revised by W. Harrison Martindale, P.R.D. 19th Edition. Vol. 1. Published by Messrs. H. K. Lewis & Co., Ltd. *Price* 27*s.* 6*d.*

WE have come to expect almost an annual revision of the book that is universally known as "the chemists' bible." The older scriptures of the apothecary were bulky enough, but are eclipsed already by the newer testament of the synthetic chemist, yet this monument of pharmaceutical veracity embraces all without flinching.

A thousand laboratories continually re-string and shuffle their organic radicals. An attendant pharmacologist has to obtain but one squirm from a denervated uterus before another cunningly christened ecbolic is launched upon the advertisement pages of the medical weeklies. The practitioner is perhaps beguiled into samples and literature, rival firms engage a new chemist, but Martindale turns not a hair, calmly passing judgment in a current edition. The oxytocic properties claimed for Cynosal are not "confirmed" will serve to dismiss the matter in one line and at the same time with an unassailable impartiality. The gold compounds recently used in the treatment of pulmonary tuberculosis are relegated somewhat in this manner to the obscurity whence they came. Occasionally the judgment is qualified, thus, "the effect of colloidal lead selenide on malignant disease is still *sub judice*," or "recent experience has shown that considerable caution must be exercised in the use of phenylchinchoninic acid," but the pronouncement is always fairly based on the latest and most reliable evidence. The criticism, too, is as often constructive as destructive, for instance, helpful suggestions are made as to the probable manner of alkaloidal activation, while nothing that is new in diagnosis or drug therapy has been missed. The treatment of cholecystitis with hexamin in massive dosage is fully dealt with, and the chapter on phenolphthalein embodies the results of two years close following of radiologists' reports on cholecystography.

That familiar term, a "mine of information," may justly be applied to this work, and while not too deep or complicated in arrangement for easy working, the extent of its medical ramifications is truly enormous. An earnest appeal is made in the preface of this edition for international collaboration in drug nomenclature and dosage, an achievement which would perhaps make the production of this book possible at a cheaper rate. Considering that twelve hundred pages on thin paper are bound into a volume of almost pocket size, the present price is not excessive, and we do not wonder that the pharmacist continues to quote the work chapter and verse. He might with the utmost confidence take his oath upon it in a court of law.

Notices.

The Musical Society.

All seats for the production of the "*Pirates of Penzance,*" on Friday and Saturday, December 7th and 8th, have been sold, but there are still a few of the more expensive seats for Wednesday and Thursday, December 5th and 6th. Application for these should be made as soon as possible.

Boxing Club.

A novices' competition is to be held in the Pavy Gymnasium on December 4th at 4.30 p.m. sharp. It is hoped that all weights will be represented.

The Massage Belle.

I love to hear the joyful knell,
Whenever Sister Massage
Reverberates the massage-bell,
Through corridor and passage,
To call the massage-ladies from
Their work, so far asunder;
And, as I watch them hurry home,
I, reverently, wonder—

May anyone be massaged, when the massage-bell has rung?
May Miss Cicely give "7" one more pinch?
May Miss Rose replace the bandage round Bill's empyæmic lung?
May not Molly massage even one more inch?

Is "11" left to linger with his leg up in the air,
While Miss Christabell breaks records through the Park?
And does any lady mutter, as she races down the stair,
"Oh, my God!" or any similar remark?

Do they e'er repent at leisure what they sometimes say in haste?
Do they seek Divine assistance as they fly?
For if any of them say what men would, similarly placed,
They will never go to Heaven, when they die.

Sport.

Rugby.

Guy's v. Richmond.

At the Athletic Ground, Richmond, on Saturday, November 17th, Guy's were defeated by a goal and two tries (11 points) to a goal and a penalty goal (8 points). Although lacking the services of one or two of their better-known forwards, Richmond's back division was considerably strengthened by the return of the internationals A. R. Aslett and G. V. Palmer. On the other hand Guy's were still without Windsor Lewis, who is still nursing a bruised shoulder, Ryan and Robinson, who were playing in a trial game at Dublin, and Myburgh.

Guy's started off very shakily and in the first few minutes were fiercely defending their line. After that the Hospital settled down and had the opportunity of opening the score, when they were awarded a penalty. R. A. G. Hogbin had a good shot at goal and only just missed. Immediately afterwards a fine run by G. G. Aslett carried play to our "25." Following a scrummage about 10 yards out the same player secured, and although tackled, threw himself over the line for a try near the posts. G. A. C. Hamilton had no difficulty in converting.

The interval arrived with the exchanges more even and with the home side leading by a goal to nil.

In the first part of the second half, Richmond had the better of the play and in a short space of time added two extra tries to their score.

The first came from a forward rush in which R. G. S. Hobbs obtained the touch down, and the second was obtained after another excellent run by G. G. Aslett, who passed to his brother at the opportune moment for the latter to score behind the posts. Much to everybody's surprise Hamilton missed an easy kick.

From this point Guy's began to assert themselves and following a splendid round of passing, F. H. B. Spence broke through the defence and gave an easy passage to O. Ive to open the Hospital's score. Hogbin was entrusted with the kick and scored a fine goal.

In the next minute the same player attempted a penalty kick from the same spot but missed. However, he atoned for his failure five minutes later when he kicked another excellent goal from a spot five yards from half-way.

Guy's continued to press and struggled hard to draw level, but although they had bad luck on several occasions, the Richmond tackling was safe and sure. The closing minutes proved a very anxious time for the home side, but they were able to keep their side intact and no further scoring took place.

The pack played an excellent game and showed a distinct improvement on previous displays. The threes, with the exception of two or three occasions had an off-day, but P. D. B. Spence was in splendid form. His fielding was neat and clean, whilst his kicking to touch was well judged and powerful.

Guy's Team.—P. D. B. Spence; J. C. Hutchinson, F. H. B. Spence, A. J. D. Lewis, O. Ive; I. K. Thomas, W. D. G. Jones; J. R. F. Popplewell (Capt.), J. Durr, R. A. P. Hogbin, G. F. Lashmore, R. R. Clarke, J. P. O'Shea, K. P. Smith, J. S. Batchelor.

Hospital Information, etc.

Pass List.

FINAL L.D.S. EXAMINATION

November, 1928

Part 1—General Surgery

Ashling, L.	Baker, C. G.
Heales, S. W.	Corfe, F. N.
Dodd, W. H.	Fisher, I. C.
Graves-Morris, W. M.	Henderson, C. S.
Jones, O. M. H.	Lockwood, J. F.
Lyne, H. O.	McNeill, J. C.
Murray, R. O.	Pugh, T. W. E.
Smithurst, W. H. H. R.	Taylor, A. G.
Wheatley, R. J.	Williams, D. S. H.
Wright, S. F.	

Part 2—Dental Surgery

Allott, F.	Archer, C. A. W.
Ashling, L.	Cooper, M. L.
Cracknell, H. J.	Crombie, Dr. H. M.
Douglas, J. G.	Edmonds, J. G. T.
Fisher, I. C.	Gare, H. S.
Hansen, G. E.	Graves-Morris, W. M.
Henderson, G. S.	Hossell, F. L.
Howitt, C. N.	Irish, F. C.
Kearsley, F. R.	Leckie, F. R.
Lyne, H. O.	Scobie, W. J.
Sexton, F. B. W.	Small, A. W. G.
Tingle, J. T. F.	Williams, D. S. H.
Williamson, C. B.	Winter, H.
Wright, S. F.	

L.M.S.S.A.

November, 1928.

E. C. Gross. M. H. Rashwan.

Change of Address.

C. S. Lane Roberts, M.S., F.R.C.S., 17, Sussex Place, Regent's Park, N.W.6.

J. C. C. Howe, York House, Skelton-in-Cleveland.

B. E. Jerwood, M.D., Catmos, Wainwright Road, Altrincham, Cheshire.

H. E. Spencer-Payne, L.D.S., P.O. Box 3, Umtali, Southern Rhodesia.

W. A. Mill, M.B., F.R.C.S., 28, Devonshire Place, W.1. Tel.: Mayfair 3647.

Denis Whitlock, F.R.C.S.Edin., Villa Vita, Scotts Lane, Shortlands, Kent. Tel.: Ravensbourne 3850.

Robert L. Peregrine, Branston Rectory, Grantham.

C. N. Talmadge, L.D.S., 59, Hencroft Street, Slough, Bucks.

Christmas Cards.

Messrs. Ash & Co., Ltd., have printed a beautiful series of Christmas Cards, at prices varying from 1d. to 6d., also a Picture Calendar of local interest at 1/-. These can be obtained at the Wills Library or from Miss Smith, Matron's Office. Proceeds are to be devoted to Hospital Funds.

Marriage.

WHITLOCK—WELLS—On October 6th, 1928, at St. George's, Hanover Square, Denis Whitlock to Sylvia Mary, daughter of Leonard Wells, Esq., C.C., and Mrs. Wells, of Shortlands, Kent.

Eds. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

A Journal of Medicine, Surgery, Dentistry and Hospital News.

PUBLISHED FORTNIGHTLY.

Volume XLII. *December 15th, 1928.* *Number 1054*

PASSIM

LAST week was one long riot of music. For five nights in succession Baker Street and its neighbourhood was treated to the "cat-like tread" of pirates, the lamentation of the Major-General's daughters, and the complaints of the police regarding their unhappy lot. Night by night the Rudolf Steiner Hall was packed with enthusiastic and distinguished audiences. The Guy's Hospital Musical Society was adding another page to its history. We cannot attempt to enter here into any serious criticism, either good or bad, of their performance of the *Pirates of Penzance*. That will be found elsewhere in this issue. All we can say is that we enjoyed ourselves enormously, and both the rest of the audience and the performers appeared to be doing likewise. Particularly would we single out for praise the choruses of pirates and police in the second act. More polemically piratical and more consummately constabulary we have rarely seen two bodies of men. We felt, however, that we should intensely dislike having our teeth stopped by one or two of the more savage pirates. Major-General Stanley behaved all through the opera just as we would have expected any self-respecting Major-General with a large family to behave. As for the Pirate King, we felt as soon as we set eyes upon him that, although his clothes did not fit, here was indeed a pirate king. Samuel, his lieutenant, was as violently vicious as Fred'ric, his unwilling apprentice, was the perfect gentleman. The Sergeant of Police was the very prototype of any policeman to be found any day at any time in the Front Surgery, with his ambulance standing outside. Ruth shook our very souls with her lamentations and protestations. Mabel, small-voiced already and rendered nearly aphonic on the last night by a "spot of mucus on the cords," yet carried on bravely and gave us a delightful picture of the faithful lover clinging to her young man, whether he be pirate or penitent. So much for some of the players. Now for the audience. It was curious how the distinction of the audience increased night by night. We would hastily add that on every night the audience was distinguished, but on the last night of all the walls of the Rudolf Steiner Hall positively groaned with the responsibility of containing such a brilliant gathering of men and women. *Pari passu* with this increase in the glitter of the auditorium, the level of the performance was raised night by night. We cannot help feeling that the second factor depended in some way and to some extent upon the first. However, we may be putting the auditorial cart before the thespian horse. Anyhow, we fervently hope that none, least of all the players themselves —should they chance to read this—will take at all seriously this ludicrous attempt to convey a vague impression of the performance of the *Pirates* by the Musical Society.

WE have great pleasure in announcing that G. W. Rake has been awarded the Paul Philip Reitlinger Prize for his thesis on "Achalasia of the Cardia." This announcement, together with the news that Rake obtained Honours in both Medicine and Surgery in the recent London Examination, comes just in time to speed him to America in a blaze of intellectual glory and to remind us that we are losing a man who certainly earned for himself, and fully deserved, the reputation of brilliant scholarship. We wish him the very best of luck in his appointment at the Johns Hopkins University.

ACCORDING to the current number of our earnest contemporary, *New Troy*, "that cherished vintage, the spirit of University union in London, is still

bottled"; further, "collegiatism flourishes—the continual sacrifice of University for College in the social and athletic sphere goes on unabated and unashamed . . . like a poison ivy does it twine round the sickly 'Varsity we seek to rear."

With such sweeping statements does *New Troy* seek to condemn the lively liquor of local enthusiasm while evidently as fully aware of the watery nature of the cordial it offers as a substitute as of the real factors that render London's University a perpetual comedy of grotesque incoordination so strongly reminiscent of the stage horse. Elsewhere in the same issue the scattered situation of constituent colleges, the problem of non-residence, the preponderance of the type of student now dubbed the "brown bagger," and the hundred and one other impediments to unification of effort are discussed in relation to the questions of general gown wearing and compulsory residence that the new Bloomsbury may bring into being. We suppose that the near future will see the abolition of all College mascots and Reggie in the Highlander's kilts saddled with a milk can duly installed as the symbol of a united university that has buried the hatchet of college rivalry deep in the sacred earth of Malet Street.

▭

As we noted in our last Passim, the Residents' Ball will take place in January next. We now hear that the date, Thursday, January 17th, and the place, the May Fair Hotel, have been definitely fixed. Single tickets, at a price of One Guinea each, may be obtained from the President, the Vice-President, Messrs. W. S. McConnell, E. T. Clifton, E. J. Pye-Smith, F. Cook, W. D. Doherty, A. Bulleid, or any other Resident.

Further details will be found on the Notices posted in the College, the Colonnade and the Medical School. We again wish the Ball every success, and would like to add our own spontaneous appeal to readers of the GAZETTE to buy their tickets early—and often.

▭

WE regret to record the death, in Switzerland, from pulmonary tuberculosis, of Horace Owen Thomas, who was at Guy's from 1922–25. As popular as he was well known, his loss will be felt by a great many Guy's men, both past and present. We extend our most sincere sympathy to his brother and sister in their bereavement.

▭

JUST as we go to press we learn that Dr. Francis Shipway, Senior Anæsthetist to the Hospital, gave the Anæsthetic to His Majesty The King for the operation performed on Wednesday evening.

Obituary.

James Stuart Smith.

THE death of James Stuart Smith occurred on Tuesday, November 13th, 1928, from septicæmia, the result of a small abrasion on a finger, contracted while attending a patient on the previous Thursday in his private practice.

To his many friends at the Hospital, few of whom knew that he was ill, the news of his death came as a great shock. Quiet and unassuming, devoted to his work, loved by the small patients that he had by virtue of his appointment to deal with, honoured as a man and teacher by the students who worked under him, his loss to the Dental School is, and will be, very keenly felt. He was held in the highest esteem by his colleagues on the Dental Staff, many of whom were present at the Cemetery at Tunbridge Wells when he was laid to rest.

Stuart Smith was born on December 9th, 1888. At the outbreak of war he joined the Royal Engineers (Signals) and acted as a despatch rider throughout the war. He saw service in Egypt, Palestine and Syria, and was one of the first to enter Damascus. During the war he contracted malaria, and this undoubtedly accounted to a great extent for the ill-health that he had to contend against in later years.

He was demobilised in May, 1919, entered the Dental School as a student in the following October, and obtained the qualification L.D.S., R.C.S. England in November, 1921. He held the Student Appointments of Clinical Assistant and Assistant Dental House Surgeon, and eventually was appointed House Surgeon in the Dental Department for Children. In 1922 the new office of Registrar to the Children's Dental Department was instituted, to which office Stuart Smith was appointed, and which he held at the time of his death.

He married in 1915, and leaves a widow and one little girl, to whom the sympathy of all at the Hospital is extended.

Sterility.

A Clinical Lecture by Frank Cook, Esq., F.R.C.S.

GENTLEMEN,—The problems of birth control, contraception and therapeutic abortion have been so fully discussed of late years that we are perhaps generally inclined to overlook the claims of those disappointed women whose great aim in life is to produce a baby. It is our business to assist them in their laudable endeavour by all available legitimate means, although we know well that a woman's craving is not infrequently secondary to an apparent impossibility of attainment. Some sterile women may seem to attach more importance to the diagnostic and operative measures themselves than to their ultimate aims and to the express object of their own desire, but I can assure you that there are countless women of heroic mould whose demand is perfectly genuine, who are prepared to make any sacrifice and who are only too willing—if this interests you—to reward your skilled assistance.

From early Biblical times it has been the common custom to blame the unfortunate female in all cases of sterile union. This attitude is generally encouraged by her relations-in-law. *One cannot over-emphasise the obvious fact that two partners are necessary to the transaction,* although some of the pregnant ladies we meet in the Out-Patient Department assure us to the contrary. The results of recent investigations attribute essential responsibility to the male factor in 20 per cent. to 50 per cent. of failures, and considerable attention and research is being directed to this aspect, particularly in America and Japan. I will leave the question of sterility in the male to the genito-urinary surgeons, with one or two reservations to which I shall refer later. It becomes evident, however, that *no woman should be subjected to diagnostic or therapeutic measures involving any risk whatsoever, unless and until the fertility of the male partner has been established as far as possible.*

In certain cases sterility is absolute in neither partner of a barren union ; a man may impregnate one woman and fail to impregnate another whose fertility is proved on second marriage. This is a matter of common knowledge. The terms " relative sterility " or " selective fertility " have been applied, but we have much to learn in this direction. As a rule we can merely conclude in general terms that the *product* of the fertility of two individuals is below par. There is little evidence to support such hypotheses as that which attributes the blame to sperm intoxication and immunity ; nor can we as yet attach considerable practical importance to dietary factors, acidosis, or the anti-sterility vitamine.

We will now turn to more tangible gynæcological conditions.

ÆTIOLOGY AND PATHOLOGY

(1) PRIMARY STERILITY

(*a*) *Developmental Defects*—

I need not refer to the grosser malformations such as absence or atresia of the vagina ; they help to fill the pages of gynæcological text books and the shelves of museums. Incidentally, I would remind you that it is dangerous to assure any woman that she can never become pregnant unless you have an absolute first-hand evidence to that effect.

There are various minor defects conducive to sterility and amenable to treatment, although, unfortunately, each of these is not uncommonly associated with some other anatomical or physiological mal-development :—

Conical cervix with pinhole os ;
Infravaginal hypertrophy of cervix ;
Cervical anteflexion ;
Retroversion ; and
Retroposition of the uterus.

None of these conditions affords a definite barrier to impregnation, but the mechanical factors are at least adverse, as the cervical canal tends to be out of direct reach of the seminal stream or pool. Treatment of sterility due to these causes is certainly attended by a fair proportion of successful results.

We may usefully add to this list those cases of imperforate, sensitive and rigid hymen which are accompanied by dyspareunia, although we must remember that an unruptured hymen is not incompatible with conception. Vaginismus is essentially a psychological and nervous affair ; there is, however, in many cases a definite organic basis, and surgical measures may solve the problem.

(*b*) *Physiological Mal-developments and Aberrations*—

We still have to admit that our knowledge of ovarian function is in its infancy. Recent experimental research seems to indicate that the situation is dominated by the anterior pituitary. This further complicates a problem which is obviously of the utmost importance in the present connec-

tion. Clinical anomalies are frequent and confusing. I cannot see that we shall make any real progress until *reliable* extracts of œstrin, corpus luteum, anterior pituitary, etc., become available for clinical purposes. It is fairly well established that the corpus luteum inhibits œstrus and ovulation, prepares the uterus for the reception of the fertilised ovum, and is responsible for the maintenance of pregnancy. These factors are of evident importance, and you will note the potential adverse effect of persistent corpus luteum from our present point of view. Roughly speaking, corpus luteum and œstrin are antagonistic. The one function conclusively known to be performed by œstrin concerns the production of œstrous features in the accessory organs. But it is possible or even probable that it also performs a follicle stimulating action, thereby precipitating ovulation and the following luteal phase. We can no longer regard œstrin as the "Follicular Hormone," which term implies the reverse process.

(2) ACQUIRED STERILITY

(*a*) *Trauma and Displacements*—

Relaxed vaginal outlet, prolapse;
Lacerated cervix;
Retroverted subinvoluted uterus.

Effluvium seminis due to a relaxed vaginal outlet has been held responsible for certain cases of sterility in women who had previously borne children. This factor is of doubtful importance, but it can easily be corrected. The question of lacerated cervix is closely associated with that of cervical infection, to which further reference will be made. Laceration, *per se*, appears to be responsible for certain cases of repeated abortion, in which trachelorrhaphy is not infrequently attended by a successful issue. Retroversion may be accompanied by a purely mechanical occlusion of the tubes, and it is commonly associated with subinvolution and hypertrophy of the endometrium. Either of these factors may hinder conception, although, as you all know, a retroverted gravid uterus is by no means rare.

(*b*) *Infection*—

Chronic cervicitis is a common cause of sterility. The inflammation may be gonococcal or septic in origin. The os may be plugged with tenacious muco-pus affording a possible mechanical barrier to the entry of spermatoza. The cervical secretion, stimulated by coitus, is normally alkaline; its reaction is changed by the inflammatory process, and the resultant acidity may prove inimical to the male element. There is some doubt as to the importance of this latter factor, but there is not the slightest doubt that the effective treatment of chronic cervicitis is often followed by successful impregnation.

The various forms of *tubo-ovarian inflammation* operate adversely by occluding the tubes or preventing the normal dehiscence of the Graafian follicle. They are commonly caused by gonorrhœa, septic abortion, post-partum infection (one-child sterility), appendicitis or curettage unskilfully performed. I wish to lay particular stress on the latter. Amongst the tragedies we meet in gynæcological practice are those in which a dilatation and curettage have been performed with the object of treating sterility, and have resulted in inflammatory occlusion of the tubes, which for all practical purposes may render the unfortunate patient completely sterile for life.

(3) REPEATED ABORTIONS

The commoner causes of repeated abortions are syphilis, nephritis, retroversion, lacerated cervix and fibroids. Many are unexplained, and it is theoretically possible that some form of corpus luteum defect accounts for a proportion of these. Since the anterior pituitary body appears to stimulate the growth and function of the corpus luteum, we may eventually have to look further afield. It has been established that the injection of œstrin during pregnancy leads to abortion, although the placenta itself contains large quantities thereof. This apparent paradox awaits satisfactory explanation, but these are factors which we shall have to consider in the future. In many cases of sterility we must bear in mind the possibility of repeated *early* abortions, those in which the expulsion of the ovum is accepted as an ordinary menstrual period. I have no evidence to support this, but it would appear to be a matter of common sense probability.

DIAGNOSIS

We first subject the patient to a general and ordinary gynæcological examination, with special reference to evident endocrine defects—*e.g.*, hypothyroidism. Inquiry is then made as to the nature and frequency of sexual intercourse. You will have no difficulty in this direction as a rule; the patient who complains of sterility is quite prepared to place all her cards on the table. But you may be astonished to find that so many women are amazingly ignorant with regard to every-day matters of sexual physiology. The menstrual history and evidence of previous pelvic inflammation, gonorrhœa, acute appendicitis, etc., are of obvious importance. To what extent previous contraceptive measures are relevant is still debatable, but they are to be taken into account.

Having searched for and excluded the more obvious defects or lesions conducive to sterility in the wife, take a look at the husband, and,

having formed a rough estimate of his capabilities, send him off for a special examination before proceeding further.

The Huhner test deserves consideration, although its practical value has been variously assessed by different observers. The procedure involves an examination of the vaginal, cervical and, possibly, the fundal, secretions at varying periods of time after coitus to determine the presence and condition of the spermatozoa *in situ*. When possible, the wife presents herself for examination within an hour or two after coitus. If spermatozoa are found alive at the fundus, the cause of sterility must necessarily lie in the tubes or ovary. Huhner has shown that pregnancy is most unlikely to occur unless semen is ejaculated directly into the cervical canal, or at least into the os externum. This observation throws considerable doubt on the reliability of chemical contraceptives as ordinarily introduced into the vagina.

It is of interest to note that spermatozoa deposited at the vulva die quickly, and those in the vagina within a few hours. In the cervical canal their life is much longer, and in the fundus active spermatozoa have been found five or six days after coitus. In the distal portion of the tube it is alleged by Winckle that living spermatozoa have been found a month after intercourse. So much for the "Safe Period!"

We now come to the insufflation tests, which represent a real advance in the clinical investigation of sterility. These tests are essentially diagnostic, although a therapeutic value is definitely claimed by Rubin as a result of his extensive experience. Although the practical risk is negligible, there is inevitably a very slight theoretical danger, and, as the *therapeutic* value is still debatable, I think it *best to let the patient and her husband decide whether the test is to be performed*, after we have fully explained the pro's and con's. Obviously, a positive result takes us no further, whereas a negative result is practically useless unless they are prepared to proceed to laparotomy and salpingostomy. Otherwise, it is merely a matter of curiosity. Perhaps I am unduly pessimistic, but I am quite willing to be converted. I am perfectly aware that most patients expect of us "must" rather than "may," but you will bear in mind that in these cases of sterility the patient's own health is not usually under consideration.

I will show you what I believe to be the most satisfactory form of apparatus for CO_2 insufflation. This is Provis's modification of Rubin's method. The test may be applied with or without an anæsthetic. Personally, I prefer the former, as it admits of a type of cannula less liable to error. With an anæsthetic our observations depend upon the manometric reading and upon the abdominal auscultation of gas bubbling through the tubes, but these afford sufficiently reliable indications. Without an anæsthetic we have the additional evidence of the pain in the shoulders and diaphragmatic region that accompany pneumoperitoneum in cases where the tubes are patent. Rubin further considers that the exact localisation of pain in the lower abdomen indicates the site of the lesion in cases where the tubes are closed. X-ray confirmation of the pneumoperitoneum would appear to be unnecessary.

The test should never be performed in the presence of active pelvic inflammation, and great care should be taken to avoid the transportation of infected genital secretions to the peritoneum. A case of air embolism has been recorded, and the possibility should be borne in mind.

When the tubes are patent the gas usually passes at a pressure of less than 100 mg. Hg. As a rule, the pressure rises to a certain point below this level and then drops from 10 to 30 mg. as the flow is established. It is unsafe to raise the pressure to a point higher than 200 mg. Hg. If this level is sustained, we regard both tubes as definitely blocked.

There are certainly cases in which the pressure drops and gas flows after an initial high pressure has been maintained for some little time. If we are optimistically inclined, we can attribute this phenomenon to the separation of folds of the tubal mucosa, to a straightening out of tortuous tubes, to the dislodging of a mucous inspissation, to the actual separation of adhesions at the fimbriated end of the tube or to the overcoming of tubal spasm. In view of this latter possibility, belladonna is administered as a routine measure prior to insufflation in Rubin's clinic, but I believe the theoretical grounds for this procedure to be extremely slender.

Should the Rubin test prove negative and thereby demonstrate occlusion of both tubes, lipiodol injection and radiography may further be applied in order to find the exact site of the blockage. This procedure merely requires a 10 c.c. syringe with an ordinary inflation cannula. Lipiodol is injected without an anæsthetic until the patient complains of uterine colic; the pressure is then released for a while and repeated. A radiograph is taken with the cannula still in place.

The chief advantage of this latter observation concerns the prognosis in cases where salpingostomy is contemplated. Better results are to be expected from cases in which the blockage is

situated at the abdominal ostium than in those whose tubes are occluded at the uterine extremity. In the latter the outlook is most unfavourable.

Laparotomy affords the final diagnostic measure, although its essential object is naturally therapeutic. In the course of all operations to restore the patency of the tubes, insufflation from below may usefully be applied to confirm the observations from above.

TREATMENT

(*a*) *General*—

Before proceeding to the more surgical measures directed to removal of local obstacles, we may well consider a few general aspects and measures, in so far as they are at all likely to be attended by success.

With regard to endocrine adjustment, I may at once say that there is only one type of case in which treatment is of any considerable value at the present time, pending the more adequate therapeutic equipment we hope to acquire in the near future. That is the case in which there is definite hypothyroidism, possibly associated with amenorrhœa or scanty menstruation. The efficacy of thyroid medication in this direction has been well established. I am afraid we must admit that dietetic measures—the vitamine E and *available* ovarian extracts—have not *as yet* assumed a position of any practical importance in the treatment of human sterility. It has been suggested that ovarian activity may be stimulated successfully by means of a very mild dosage of X-rays, by diathermy, etc., but I would remind you with regard to X-rays that you are playing with a very dangerous weapon so far as sterility is concerned.

In certain instances of "relative sterility" common sense measures may prevail. Even after a long period of apparent sterility, temporary separation of the partners is not infrequently followed by pregnancy shortly after their reunion. This was particularly obvious at the end of the war. Now, although the recent American statistics have not shown to be unduly sterile those women who indulge in sexual intercourse at least once a day, there is good reason to believe that a husband may be reduced to a state of temporary sterility by the excessive demands of a comparatively over-enthusiastic wife. He need not necessarily become impotent, and his spermatozoa may actually appear to be active on ordinary examination, but as a productive partner he is ineffective for the time being. It seems further possible that daily intercourse *may* lead to a series of very early, and therefore unnoticed, abortions, but this is purely speculative. Temporary separation is undoubtedly the essential factor determining success in many cases where the wife is subjected to prolonged courses of treatment at spas and otherwise.

If we advise restriction of coitus we must be prepared to recommend the best time for its performance. Statistics, mostly collected during the war, tend to indicate the eighth day after the *onset* of menstruation as being the optimum period for productive copulation. Other evidence of fairly definite nature appears to show that ovulation in the human female usually occurs from the tenth to the seventeenth day after the onset of menstruation—*i.e.*, about the middle of the intermenstrual period. There are obviously many other factors to take into account such as the rate of travel of the spermatozoa, the meeting place and the length of time elapsing between ovulation and fusion, but I would suggest to you an interesting point for consideration. In the rabbit and certain other animals ovulation does not occur at the œstrus unless mating takes place; it is just possible that copulation may accelerate ovulation in the human female.

In the event of *artificial insemination* these data are manifestly of the utmost importance, but this measure has not hitherto met with any considerable clinical success.

Most cases of relative sterility seem to call for the procedure of the poultry farmer, but the necessary prescription is outside our pharmacœpia.

Certain spas have gained a reputation in connection with the treatment of sterility, notably Schwalbach, in Germany, and Spa, in Belgium. These are famous for gaseous chalybeate waters, peat and effervescing iron baths, etc. I am not quite certain as to the part the effervescing iron plays, but it seems to produce profitable results in one way or another. Then there is Elephanta Island, off Bombay, with its interesting temples. One suspects that the priests may not be entirely above suspicion, but I do not wish to draw comparisons, and will proceed to more technical considerations.

(*b*) *Surgical*—

In briefly suggesting each surgical measure, I will assume that sterility has been attributed as far as possible to the condition underlying that measure, and to that alone. I will leave to your imagination the manner of dealing with combinations of adverse factors, and therefore I shall not expect you to operate on the cervix if the tubes are sealed beyond repair any more than you would perform a salpingostomy at the request of a sterile husband.

Rigid hymen, and certain cases of *vaginismus* in which there is stenosis of the introitus or other organic basis, are more satisfactorily treated by

plastic operation than by vaginal dilators, although continued dilatation is occasionally necessary. In many cases of vaginismus, psychotherapy is indicated rather than surgery.

Stenosis of the cervix is usually treated by dilatation, and not uncommonly with brilliant results. Curettage is unnecessary, and the stem-pessary is an actual source of danger. On more than one occasion I have known saplingitis to follow its application.

Infravaginal hypertrophy of the cervix indicates a neat amputation thereof when sterility is the point at issue. Other factors being satisfactory, the outlook is good.

Cervical anteflexion and *retroposition of the uterus* are treated by dilatation, and by slitting the posterior or anterior lip of the cervix respectively. As these incisions are rendered permanent by plastic procedure, they should not be too prolonged, otherwise the resultant condition corresponds to lacerated cervix and repeated miscarriages may ensue.

The treatment of *retroversion* is one of the most debatable questions in gynæcology, into which I do not propose to enter at the present time. Each case must be treated on its own merits, but it is quite certain that correction of the displacement by one means or another is frequently followed by impregnation in patients previously sterile. Should the retroversion be associated with sub-involution and hypertrophy of the endometrium, curretage is further advisable.

Relaxed vaginal outlet with effluvium seminis is a doubtful cause of sterility, but successful results are said to have followed postural measures, effected by means of a large pillow under the buttocks during and after coitus. Perinæorrhapy would appear to be a more satisfactory procedure.

Lacerated cervix should be treated by means of trachelorrhaphy rather than amputation in attempting to overcome sterility, although an amputated cervix affords no definite bar to conception.

Myomectomy is obviously the operation of choice in case of *fibroids*, and a successful result may be expected, particularly in obviating repeated miscarriage.

Chronic cervicitis demands a lecture unto itself. Our chief assets in its treatment are glycerine, diathermy and, possibly, ionisation. It is undoubtedly a most important factor from our present viewpoint.

Inflammatory occlusion of the Fallopian Tubes—

Unfortunately, in this group of conditions there is frequently a blockage at the uterine ends of the tubes, whatever the condition of the abdominal ostia. In this event simple salpingostomy is evidently useless, and therefore the patency of the whole length of the tube should be tested at the time of operation by means of a fine probe, or by insufflation from above and below.

Where the closure is limited to the abdominal ostium the outlook is comparatively favourable. As you will remember, there are roughly two types. One is usually gonococcal in origin, the tube is club ended and the fimbria are withdrawn into a central dimple. In the other type, which usually results from streptococcal or mixed infection, the ostium is closed by adhesion of the fimbria to adjoining structures—*e.g.*, ovaries, the broad ligaments or the sides and floor of the pelvis. The latter is treated by careful separation of the adhesions, and affords the better prospects of success, provided the rest of the tube is patent. The former necessitates the construction of a new ostium, or salpingostomy proper. Where the distal end of the tube is destroyed or disorganised, partial salpingectomy is necessary. The outlook is not good, but conception has been recorded, even after total salpingectomy. Where the isthmus or interstitial portion of the Fallopian tube is affected, an end to end anastomosis or an actual implantation of the distal patent portion of the tube into the uterus is indicated; and, of course, the chances of success are poor. Bethel Solomons recommends bisection of the uterus in order to facilitate these latter procedures; he records successful results.

In all cases of restoration of the tubal lumen it has been found of great advantage to leave a strand of catgut along the whole length of the canal. Ventro-suspension of the uterus is advisable, as post-operative sealing of the re-established lumen is less likely to occur when the tubes are slung in their normal position. Repeated insufflation may further tend to obviate reclosure.

In certain apparently hopeless cases the ovary has actually been grafted into the uterus itself, but I am not aware of any successful issue.

Peri-Oophoritis, preventing normal dehiscence of the Graafian follicle, would appear not to be amenable to any definite line of operative treatment. But it is always possible that this condition may resolve as a result of glycerine tamponage, hot douches, etc. It has even been contended that the patency of the tubes may be restored by measures of this kind.

May I repeat that it is only fair to emphasise the odds against success in all cases of inflammatory occlusion. Laparatomy is always a serious adventure, upon which we cannot embark without the patient's full knowledge of the potential risk and the uncertainty of her reward. It is to the infinite credit of many women that they willingly choose to sacrifice their own comfort and well-being to the slenderest hope of motherhood.

"The Pirates of Penzance."

"WHEN literary duty's to be done (to be done), A critic's lot is not a happy one (happy one)." I wish I had never allowed myself to be persuaded by the flattering eloquence of the Editor to write about the recent performance of the *Pirates of Penzance*—but it was the flattery that did it. He rang me up and said that on some similar occasion in the distant past I had written something which had been acceptable, and would I kindly do so again. Without a thought I said yes, and here I am, pen in hand, not knowing how to begin. The worst of selecting well-known works for amateur performance is that it naturally invites comparison with the professional article, and comparisons are, as we know, odious. To a certain extent I feel I must be odious, as it is impossible to pretend that one has not seen Mr. Lytton and his crew many times singing the well-known tunes and repeating the well-worn jests, and one can hardly avoid some comparison. After all, a critic's job is to criticise, and it would be absurd to say that the show was perfect in all its details.

The Major-General and his Daughters.

Let me first make one general criticism which really covers all the smaller ones that follow. It seemed to me that enough time had not been devoted to rehearsal. I think it would be far better not to produce the opera on another occasion until after Christmas—as has hitherto been the practice. No doubt, there were excellent reasons for not doing so in this case, but there can be no doubt that the production suffered as a result. I cannot claim to have seen all the operatic ventures of the Musical Society since they were started some years ago, but I have seen nearly all, and I should not hesitate to say that this last one was not quite up to the general standard of the previous ones. Considering the brief time that rehearsals must have been going on, I think it is amazing that so good a performance was given, but it seems a pity to spoil the ship for a ha'porth of tar, and I would suggest a more prolonged preparation for the next occasion—to which we are all looking forward with the highest possible hopes.

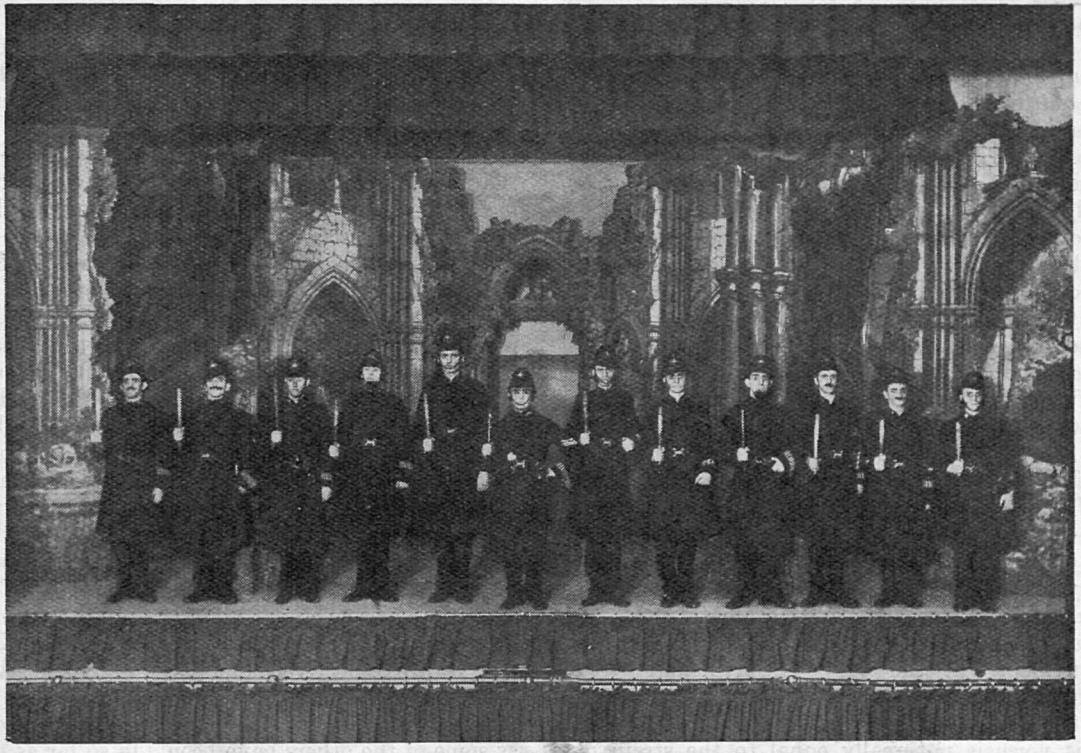
The Pirate King and Samuel.

Mr Leffler had led us to expect a very high standard of production, and we were not disappointed, except for one or two minor defects, which were doubtless due to the cause mentioned above. The action of the chorus, on a somewhat restricted stage, was really very good, and nothing could have been better than the Pirates' chorus, *With Cat-like Tread*. This was one of the oc-

casions when comparison with the D'Oyly Carte Company was in no way detrimental to the amateurs. I thought it was quite as good as anything I had ever seen the "pro.'s" do. The chorus of daughters was good, but not quite so good as the men; with some notable exceptions, they appeared rather conscious that they were on the stage, and there were some who did not know how to move with ease and grace. But, on the whole, the chorus, male and female, was exceptionally good and made the whole thing go with a swing. They were largely responsible for the smooth, swift movement of the whole piece.

Ruth and Fred'ric.

Like Mr. Leffler, Mr. Templeman has an established reputation in these productions, and in the present instance it was worthily maintained. Many of the musical defects could have been remedied by longer practice, and it seems hardly fair on the Musical Director to ask him to reach perfection in too short a time. The orchestra was fully equal to its very difficult task and, in spite of the conductor's attention being almost fully occupied with the stage, they accompanied the songs with considerable success. True, they were not always playing the same bar as the singer, but this was not always their own fault. In the last verse of the Major-General's patter song they were a bar behind, but that was because that noble officer came in a bar too soon. The tone of the strings, when playing alone, was thin, but the effect of the full orchestra was remarkably good. It seemed a pity that we could not know the names of the wind players who were imported for the occasion or of the double bass player whose



"A Policeman's Lot is Not a Happy One."

The Cast.

hard work was visible as well as audible by virtue of his elevated position. The very delicate accompaniment to the chorus for female voices, *How Beautifully Blue the Sky*, was much too heavily played, and the chorus, taking their cue from the orchestra, failed to get the rain drop effect which the chorus can have when perfectly sung. Occasionally the chorus got definitely flat—notably in the "orphan" chorus on the night I was there—but, taken all round, they kept the pitch well and the orchestra were probably not so audible to them as to the audience. *He's Telling a Terrible Story* was excellently sung, as was the popular chorale *Hail Poetry*! which, according to established D'Oyly Carte tradition, was given an encore. A little more attention to the admirably clear beat of the conductor would have avoided one or two minor errors which marred what was on the whole a really competent performance by a chorus well up to the high standard set in recent years.

Of the individual performers, I must honestly say that I think the men were better than the ladies—both vocally and dramatically. Mr. Hankey is a much improved actor and was quite convincing in the very unconvincing part of Fred'ric. He has learnt something of the difficult art of getting rid of his hands since last I saw him. His voice is not really equal to the strain of a long part in which all the music lies too high for comfort, but he went through with it in spite of obvious signs of vocal fatigue towards the end. Mr. Chamberlain never sounds like tiring. Vocally, he was the best performer in the cast, and his acting is of a high order of merit. It seemed a pity that he had so little to do. Mr. Clarke is an accomplished actor. I did not see his Koko last year, but his reputation has spread abroad, and I was expecting great things. I cannot say more than that his performance reminded me of Mr. Lytton at every turn. Even his voice was reminiscent. I heard every word of the *Modern Major-General*—which is not to be wondered at, as I have known them for years—but, I believe, even those who heard them for the first time would have caught them all—or, at any rate, all they knew. Mr. Clayton-Jones seemed to be fighting against an uncontrollable desire to go to sleep, which rather spoilt the effect of his performance of the Pirate King. In his first song he quite lost the spirit of the thing by his lethargic movements, and he appeared to be thoroughly embarrassed at having to wave the dreadful emblem of his trade. His voice proclaimed him to be intolerably bored with the occupation of piracy, but he sang in tune and his enunciation was quite satisfactory. Mr. Barber had evidently made a study of Mr. Sheffield. He had many of the tricks of action and of diction to perfection, but we missed the traditional pronunciation of "gurgling." It was a thoroughly sound and amusing performance, which was no more than anyone expected who had had previous experience of Mr. Barber's art.

Miss Gough was called upon to sing some of the most difficult music that Sullivan ever wrote in these operas. It would be idle to pretend that she has a voice which could do real justice to *Poor Wandering One*, but she sang this difficult song most creditably, and thoroughly deserved her encore. She has a small voice which is not yet under complete control and which is by no means perfectly produced, but it is a voice which, I hope, she will cultivate, for it is full of possibilities. Her acting was very sound without being remarkable, and she is to be congratulated on filling the most difficult role in the piece so ably. The Ruth of Miss Barratt was a very capable performance. She has a voice of great charm and, with further experience both of acting and singing, should become a most valuable member of any amateur operatic society. Miss Tallyn, Miss Lord and Miss Bentham filled the smaller parts of Edith, Kate and Isabel respectively and sang and spoke their few lines with unobtrusive competence.

Altogether, a good show, but not quite so good as some of the others have been. In so far as this was due to insufficient preparation it can, and I hope will, be repaired in future years. But the Society, the Producer and the Musical Director are once more to be heartily congratulated on the very satisfactory results of their labours.

M. E. S.

Speciality.

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LORD LYSOL.

The Expression of Emotions.

A Paper read before the Guy's Physiological Society, October 30th, 1928, by M. S. McArdle.

MR. CHAIRMAN AND GENTLEMEN,—To judge by the daily press, psychology has become a popular fashion. The layman—or is it the laywoman who, though always essentially a psychologist, has had her thoughts directly concentrated?—no longer thinks the mind the simple stuff of former imaginings, and, flattered by the new mentors, gives importance even to the most absurd dreams as being related to his sub-conscious self.

Some of the blatant fallacies which gain currency may be disturbing at times, but, if kept within proper limits, this new spirit of inquiry is to be encouraged. Attention at the moment seems to be rivetted in particular on the expression of the emotions, and at least one newspaper has recently had its columns filled with pictures of facial representations of the simpler expressions. Had it been so meant, it would have been a wise beginning in the study, for the face is very diagnostic. It may reveal not merely the mental state but the health of the individual. In the case of a child the expression may often be as good a clue to health as an examination of the chest. But I am told that one has also to be wary in forming conclusions, and that that little frown which often precedes an outburst of crying may also betoken either mere bad temper or bad eyesight, which equally need a corrective. Farmers, it seems, are well aware of the value of expression, and a look from the apparently expressionless cow may indicate its state of health. Parenthetically though, it may be remarked that it might destroy some of our pleasures completely if we were all to go about looking for explanations, immediate and antecedent, for every kind of expression. How much of the spice of life would the fond uncle lose if, for instance, he reflected that the dainty little bodily squirm of his delighted niece was comparable to the lateral oscillation of a dog's tail and capable of a common explanation.

And there, too, he might enter at once on disputed territory. The expression of the emotions is on the border line of psychology and physiology, and, as is the fate of all borders, it is provocative of much dispute. Some psychologists believe that the bodily actions accompanying an emotion are not really the expression of the emotion, but the actual cause of it. This view has been put forward by James, who holds that we feel sorry because we cry, angry because we strike, afraid because we tremble, and not that we cry, strike or tremble because we are sorry, angry or fearful. "Without the bodily states following on the perception, the latter," he says, "would be pale, colourless and destitute of emotional warmth." Stated less paradoxically, this theory means that the emotion of fear, for example, is really the perception of the muscular movements and visceral sensations that we experience when we are afraid, and that, since in anger the muscular and visceral sensations will be different, the resulting emotion will also be different. James has been roundly trounced for this theory, and for myself I think he is putting the cart before the horse. A man hears over the telephone that the shares in which he has invested his life's savings have slumped on the Stock Exchange. On the theory of James the sensation of that man is only to be explained by the punning hypothesis that his "pockets have been touched" and that the adjacent nervous current has communicated the loss to the cerebral hemispheres. We may, however, make the concession to James that the occurrence of an emotion can be strengthened by the assumption of muscular movements which form part of its expression. Given the disposition, a man may "work himself up" until he becomes really angry by pacing round his room, clenching his fists and grinding his teeth. But James's theory would be a bad defence to a police court charge of wife assault.

Physiological objections have been formulated by Sherrington and Cannon. Sherrington has found that a dog exhibited all the symptoms of emotion even when devoid of sensations from the viscera and muscles and skin behind the shoulder. Accordingly, he argues that the visceral expression of the emotion is secondary to the cerebral action involved with the psychical state, and that the visceral changes arise through the impulsive power of the emotion to muscular activity. "Visceral and organic sensations," he says, "are contributory to primitive emotions, but they reinforce rather than initiate the psychosis." Applying his researches more particularly to an analysis of the visceral components of emotional states, Cannon concludes that in terror, rage and intense elation, for instance, the responses in the viscera "seem too uniform to offer a satisfactory means of distinguishing states which, in man at least, are very different in subjective quality."

Having thus fortified ourselves with authority, we may pass on to analyse the significance of

our bodily emotional expressions. In man the muscles of the face more readily express the emotions of feeling, and we may group with these muscles the sternomastoid and the platysma. But as we descend in the scale to the lower animals, the part taken by those muscles becomes more limited in proportion as the features lose their mobility and expressive character. The dog possesses a countenance that can be very expressive, but one of its chief methods of expression is in the movement of its tail. So far as we know, emotion has no reflection in the face of a bird; erection of the skin of the neck, and, in some birds, of the feathers, takes the place to some extent of the muscles of the face.

Though physiognomic expression is one of the signs, it is not the only sign of emotion, and it is doubtful if it is even the most important sign. Very marked changes in the respiratory muscles accompany all emotions, and Sir Charles Bell thinks that many of the movements of the face are secondary to the movements of respiration. Similarly, the heart and other internal organs are much affected by emotion, and when the mental disturbance is very severe the whole body is affected, either to the extent of paralysis, such as you might get in extreme terror, or to a general state of excitement or trembling.

While many theories have been put forward to explain the origin and significance of these various forms of expression under different emotions, the most satisfactory explanation would seem to be derived from a consideration of the history of man and in a determination of their significance as a biological factor. If we were to confine ourselves to man, many of our expressions would seem to be more or less useless, but when paralleled with the expressions of animals and of primitive types of man an apparently futile action, such as pursing the lips, may be seen in a different light. We may be guided in another way by the study of primitive races of men and of animals, for their expressions will not have been modified by the education given by civilisation.

To Darwin and Herbert Spencer we owe two of the most prominent theories to account for emotional expression on the hypothesis of evolution. There is a certain similarity between the two, and each has embodied his theory in certain "laws." Darwin has formulated three principles. The first of these is "the principle of serviceable associated habits." According to this, "Certain complex actions are of direct or indirect service under certain states of the mind in order to relieve or gratify certain sensations, desires, etc., and whenever the same state of mind is induced, however feebly, there is a tendency, through the force of habit or association, for the same movements to be performed, though they may not then be of the least use." He finds many interesting examples in animals of the powerful force of association or habit, and cites the familiar case of dogs which, when they wish to sleep on a carpet or hard surface, turn round and round scratching the ground in an apparently senseless manner. But this action is made clear when we realise that their wild parents would perform exactly similar movements when trampling down the grass and scooping out a hollow in an open grassy plain. Another instance of a purposeful remnant of an habitual hereditary movement is to be found in the fact that dogs, after defæcation, often make a few scratches with their feet even on a bare stone pavement. The object is to cover up the excrement with earth, but in the achievement of that the dog to-day is less successful and less careful than the cat, which perhaps has not become so closely associated with humans.

We shall see later on that in man the same force of habit rules strongly, and that many actions, apparently diverse and perhaps with a suggestion of class distinction, have in fact a common origin. The *jeunesse doree* may think themselves far removed from the agricultural labourer, but, in fact, when the young man of to-day fingers his tie in a moment of mental disturbance or embarrassment he is no more elegant in expression than the country yokel who, for want of a better, twists his forelock.

Sully and others have challenged Darwin's second principle of antithesis—that any emotion will produce actions of a directly opposite nature to the contrary emotions. Objection is made that the conception involved is extremely vague, and, as Sully asks, "Why should the movements of a dog during an outburst of affection be regarded as the antithesis of movements which accompany anger rather than those which characterise terror?" In his third principle Darwin attributes certain expressions, not accounted for by his other two laws, to the direct action of the nervous system independently of the will. As a result of this action trembling is produced, the movements of the heart are altered and secretions modified. In this way Darwin makes his principles comprehensive, though they remain somewhat vague. All that we can say is that excessive stimulation of the nervous system by strong emotion produces effects on all parts of the body.

But, taking them together, these principles of Darwin give us a good basis for an analysis of man's expressions. Various attempts have been made by psychologists to classify emotions ac-

cording either to their common similarities or to their presumed origin, but, at the risk of a haphazard account, I propose for the most part to describe the emotions in such a way that opposing emotions succeed one another. Weeping and laughter are probably our two most characteristic expressions, and it may be appropriate to lead with them.

The verb " to weep " is derived from the Anglo-Saxon word " wop," meaning an outcry, but this derivation is not comprehensive enough for a sophisticated civilisation, for weeping is also produced by any irritation of the eyes, of the nasal mucous membrane or even by a bright light. These are clearly reflex acts to protect the cornea or to wash away irritants. But they do not explain why weeping should accompany the cries of a child or should even follow on laughter. It is a common experience that after screaming or laughter the face is flushed, engorged with blood. *Pari passu*, with the purple face there is always a strong involuntary contraction of the orbicular muscles, which Darwin concluded was to protect the eye from the increased intra-ocular pressure. He explained that the secretion of tears under these circumstances was due to this contraction of the orbiculares, and that this accounted for the occurrence of tears in screaming, in prolonged laughter, in vomiting and even in yawning. Another factor in these conditions is the increased blood supply to the lachrymal gland. Darwin then explains the origin of weeping from the fact that children through all ages when in mental or bodily pain showed their grief by screaming and a consequent weeping. As our control of the will has become more perfect with age or the " advancing culture of the race," we have learned to inhibit the scream when in distress, but the force of habit is so strong that although the orbiculares do not contract, or only twitch slightly, tears may still be shed, and weeping, although accompanied by no other action, becomes expressive of grief. This theory is very attractive, but not altogether without objection, since many of the loudest screams of infants are tearless, even though there is strong contraction of the orbiculares. Another view of the biological origin of weeping has been put forward by Reynolds. He says that weeping in the lower animals, such as the dog, is a reflex act to moisten the cornea in fatigue, especially when due to intense vigilence, in diseased states, or when foreign matter is within the eyelids. All these conditions are disabling for the dog hunting with the pack, but the protective reflex of weeping indicates to the pack that that dog is temporarily out of action. Accordingly, realising that he is still a good hunter, they rest and protect him. The forbearance of the herd towards weeping will gradually lead generations of dogs to shed tears when in any kind of distress, with the result that to successive generations the power of weeping becomes under the control of the will and is a direct appeal to the sympathies and attentions of one's neighbours. There are " sly dogs " who have developed the habit of weeping without pain or irritation of the cornea because they have been led to expect some fondling or extra affection. But, in passing, it may be noted that that habit is not confined to " sly dogs " of the quadruped type, and that some females of the human species have learned its value.

Associated with weeping in states of distress man uses other equally expressive actions. We are not using a mere colloquialism when we say that a man's " face fell " or that he was " down in the mouth." There is no mistaking the characteristic expressions of grief—the long face, the drooping eyelids, the depressed angles of the mouth and a puckering of the brow, with a general tendency for the cheeks, lower lip and jaw to sink downwards from their own weight. There is also that peculiar oblique lifting of the eyebrows in the centre of the forehead. Women show these expressions better than men, and often when denied a favour or beaten in an argument and on the point of tears the signal of distress is hoisted in the raised eyebrows and in the depressed lower lip. Grief is the precursor of weeping, and presumably this is the origin of such expressive actions. In children distress leads to tears accompanied by screaming, and the lip is lowered to widen the mouth the better to yell. Adults have learned to suppress the tears, but their distress is still shown by the " down in the mouth appearance " for their will cannot control that slight habitual twitching of the *depressor anguli oris* so closely associated with distress in their childhood days. Similarly, although they cannot prevent the contraction of the orbiculares in their effort to avoid weeping, they succeed in opposing the contraction of the weaker pyramidal muscles of the nose by acting on the central part of the frontalis muscle. The resulting expression of sorrow becomes therefore the raising of the eyebrows and the central puckering of the forehead.

But " hence loathed melancholy." Let us trip to laughter " holding both his sides." The expressions of joy and high spirits are similar in the whole of mankind, and while cultivated Europeans do not express their pleasure by rubbing their bellies after the fashion of the negroes of the Upper Nile, they indulge in actions no more easily understood. The bright eye of joy is, no doubt,

due to the ocular muscles sharing in the increased tone of all the muscles of the body, but why clap our hands, smile with open mouths and burst into laughter? Why that fit of uncontrollable laughter that sets in at the slightest joke after a period of strain—say, the successful result of an examination. Is it something in the nature of a safety valve? The smile and open mouth are preparation for the strong expiratory movements that come with laughter.

Why we laugh at all has long been a puzzle to psychologists. It cannot be that Nature has devised such a nice co-ordination of movements merely as an outflow of surplus nervous energy. Hobbes suggests that we laugh at a man sitting down on his top hat because we perceive some eminence in ourselves as contrasted with the other man's folly. It is a cynical view of human nature, and if it were true the proud and the eminent would almost have a monopoly and there would be no room for good natured laughter. Social workers tell us that there is more laughter of the true kind in the East than in the West End, which would seem to support McDougall's view that laughter is often an antidote to excessive sympathy. "And if I laugh at any mortal things," says Bacon, "'tis that I may not weep." A good laugh rejuvenates our system and prevents us thinking of depressing things. We laugh at the ludicrous—for instance, at a man running after his hat—because, if we did not, the ludicrous action would displease us, first, because it is out of harmony, and, secondly, because it would be distressing to us if we were doing it. Laughter, therefore, prevents us continually sharing the petty pains and disappointments of our neighbours—in short, it rescues us from a life of misery. It is not that we despise our neighbours in their afflictions, for has not Sir William Joynson Hicks, the Home Secretary, just told us that the man who sits down on his hat is the most popular member of the House of Commons.

Biologically, laughter seems to have another significance. It is the call of the individual to his neighbours to come and share his joy. "All who joy would win, must share it—happiness was born a twin," says Byron.

From running after a hat let us now proceed to—running after a wife. We have it on the authority of G. K. Chesterton that this is even more comic and ridiculous. It is not for me to analyse love or its expressions. No doubt, it is a very strong emotion, but it seems too elusive for description. The whole essence of its expression appears to be contact with the loved one. As cats and dogs take pleasure in rubbing against their master, so man expresses his love by kissing, if he is a European, and by rubbing noses if he is a Maori or a Laplander. Surely he must feel debased in doing this if he reflects that he is but imitating the loving chimpanzees in the Zoo, who, sitting opposite each other, form contact with much protruded lips. As far as I know, however, there is, except perhaps among bears, no parallel in the animal world to another of man's expressions—dancing. This desire to draw the object of love into an undulating rhythmic embrace is probably an inherited habit associated with the nursing and tending of children.

Closely associated with the wooing of lovers is the maidenly blush, and in this case the "sweet young thing" can be comforted in the knowledge that no other animal, not even the monkey, shares this expression with her. It is the general expression among mankind of self-consciousness, and it is therefore chiefly prevalent in the shy and the modest. The blush is more common in women than in men, whereas it is absent in children. Poets have variously spoken of it as woman's defence and as her attraction. Doubtless, a slight blush adds to a woman's beauty, and it is recorded that Circassian women who can blush fetch a higher price in the Sultan's seraglio. In the more civilised races the blush is confined to the face and the V-shaped part of the neck marked out by the dress, whereas natives, who are nearly naked, blush over the whole of their body. Darwin's explanation of the blush is that men and women have at all times valued their personal appearance, and are extremely sensitive, especially with regard to the face, which can make or mar beauty. Originally, the opinion of others excited a process of self-attention and men became self-conscious. This attention influenced the vasomotor centre just as the higher centres influence the salivary glands and in some cases can affect the rate of the heart. It is a commonplace of psychology that thinking of a painful spot will make it more painful, and that some people by imagination can experience real bodily pain without other cause. From excitation caused by regard for the opinion of others blushing has, by force of habit, tended to be excited also by opinions reflecting on our moral conduct.

Explanation of the expressions of surprise does not call for much imagination. The wide open eye, so necessary for a comprehensive vision of the object, cannot be produced unless the eyebrows are raised, and as surprise may call for quick movement, the open mouth aids a large inspiration. If surprise fades into relief the expiration produces the sound "Oh"; if the mouth is partially open, the inspiration, if the lips are contracted, is the cause of a whistle, "Whew."

In many circumstances our ancestors when surprised may have wished to conceal their presence, and possibly the raising of the hands to the lips was an attempt to stifle the hurried volume of breath as quietly as possible. The other typical bodily expressions of surprise suggest a "hands up" attitude and convey an impression of helplessness, as though the victim would say "I have no weapons." Astonishment will often give rise to fear and many of the facial expressions will merely be accentuated. But the emotion produces a direct effect on the nervous system, and adrenalin will be liberated to satisfy the impulse to run. Hence the violent heart beat, the dilatation of the pupil, the erection of hairs and the cold sweat. This erection of hairs is well marked among the insane during anger as well as in fear. Of course, it is a common expression among animals, and seemingly is an attempt on the part of the animal to impress the enemy or even to frighten him. A hen guarding her chicks with ruffled feathers from the invading dog is a common sight in the farmyard.

Horror is an emotion compounded largely of fear, but also to some extent of disgust. The facial expressions nearly correspond to those of fear, but the repulsion is shown by the turning away of the body and the outward movement of the arm as though to banish all sight of the object. Other minor expressions of disgust and repulsion are very illuminating and show that even modern man expresses some of his emotions in terms of eating and drinking. Thus, we "celebrate" a great event or an honoured memory by tickling our palates and filling our stomachs, which, stated thus, seems somewhat barbarous, though none the less pleasant. As an expression of disgust do not those guttural sounds "ugh" and "ach" signify a clearing of the throat of some offensive material? Although mostly a filthy habit, spitting is a universal sign of disgust; we rid our mouths as it were of the loathed object, and extreme repulsion is expressed by movements of the mouth identical with those preparatory to the act of vomiting. The contemptuous snapping of the fingers is a trifle different; it would seem to suggest a crushing of the object of disgust as one would a fly.

Anger, one of the strongest emotions, I have left to the last. Although so frequently roused, its expressions cannot have altered much since the Stone Age. There may be no boulders or clubs to hurl, but we have the tea cups to smash and the table to kick over, and, for the more educated people, the pieces of paper to tear. The expressions are still of a fighting nature—the squared shoulders, clenched fists and teeth ground and set in a determined jaw. Some natives of India when fighting project their heads and bodies at one another, and is it too much to assume that this is a remnant of the habit of attacking an enemy with the teeth? Indeed, the animal inheritance in this respect is the more likely if the snarl antecedent to anger is examined. Approach a dog chewing a bone, suggest that you intend to take it from him, and observe that before his anger is really roused he snarls by retracting his upper lip and exposes his canine tooth. The interesting point is that savages and even some civilised men, and especially women, snarl at each other in the same way. They do not, however, draw back their ears as a protection, for they do not fight with their teeth.

Before concluding, I would like to observe in qualification of some of the theories advanced in the books that emotional expression must often have been disadvantageous and not beneficial to the individual. If there is any truth in Talleyrand's saying, "Speech is given to man to conceal his thoughts," then surely the manifestation of feelings must often have been detrimental to the individual. For example, the premonitory disclosure to the enemy of fear must have reacted unfavourably. Accordingly, may not appearance of boldness conceal fear? I am the owner of a small Scottish terrier which is a daily wonder in its exhibition of shrewdness. If he sees a large and ferocious-looking dog in the distance he will carefully endeavour to pass unnoticed, but if he is conscious of having been observed he will make a dignified approach and stand by the other dog with tail stiffly erect and head well up. The result is generally a deferential respect. On the other hand, let another dog, however big, seem to want to slink past and little "Kilty" will snarl at his heels and get him properly on the run. But then, because Scottish, the little terrier may be said to be sophisticated. At any rate, in human beings the "bold front" is often a mask for fear, just as what we call "cheek" is often the desperate plunge of the timid and the shy.

On a subject so complicated and obscure it is unwise to be dogmatic, and if you think I have been too long on emotional expressions, which are so familiar that it may be thought that their motives and origin are hardly worth considering, my excuse lies in the weighty tomes of learned men giving, if I may say so with all respect, but little confidence that any final conclusions are yet within reach. All that may be said of them is that they are stimulating—and long.

Nursing News.

THE Universal Cookery and Food Exhibition was held at Olympia from November 23rd to December 1st, 1928. A Team of six Nurses again competed for the Hospital Challenge Shield for Invalid Cookery. This year we were successful in winning the Shield, which we lost to the London Hospital last year, after having held it for four consecutive years. The trays, daintily arranged, each comprised a meal for a patient with some special disease, such as diabetes, Addison's anæmia, etc.

The Team consisted of: Nurses M. E. Lloyd, Hesslegrave, Peile, Dommen, Hall, Moss.

Individual awards were given to the following :—
Silver Medals—Nurses Lloyd, Hesslegrave, Hall.
Bronze Medals—Nurses Dommen and Moss.
Certificate of Merit—Nurse Peile.

At the three State Examinations held during the year 1928, 78 Nurses entered for the Preliminary Examination and 74 passed ; 55 Nurses entered for the Final Examination and 53 passed.

Correspondence.

"Odontomes."

DEAR SIR,—Will you allow me to correct a few errors that crept into the account of my lectures on "Odontomes" which was published in the last issue of the Guy's Hospital GAZETTE ?

The mistakes concern chiefly the illustrations.

The first picture, which is to be found on page 500, is of a compound composite odontome, and should have been marked Fig. 11. The description of this figure is found beneath Fig. 12.

The illustration marked Fig. 11 should have been placed at the end and called Fig. 19.

Figures 17b and 18 were turned upside down.

Yours faithfully,
J. LEWIN PAYNE.

18, Portland Place, W.1.
December 10th, 1928.

[We offer our most sincere apologies for these errors, and can only plead the monotonous, though genuine, excuse of all Editors—the limited time for proof-reading.—ED.]

Sport.

Rugby.

Guy's *v.* Cardiff.

THIS match was played at Cardiff on Saturday, November 24th, 1928. Guy's gave a very much improved display, and were unlucky to be beaten by 1 goal and 2 tries (11 points) to nil.

The whole of the scoring was confined to the first half, when Cardiff took advantage of the prevailing wind. From the kick off Guy's attacked immediately and, following a good round of passing between the threes, Ryan burst through brilliantly and came within an ace of scoring.

Not many minutes had elapsed before Evans opened the scoring for the home side. Seizing an opportunity in the loose, just outside our 25, he made a fine run and crossed our line in a favourable position, but Cravos failed to convert.

Soon afterwards G. Jones wriggled his way through to score near the posts. Stone had no difficulty in adding the extra points.

The latter completed the scoring with a fine individual break through, but Cravos again failed with the kick.

In the second half Guy's put up an excellent fight, but the splendid efforts of the forwards were not properly supported by the backs. Numerous opportunities came their way and there were several good rounds of passing, but the finish was weak.

It was a nice open game and had the Guy's outsides taken advantage of the chances that came their way, the score might easily have been reversed. The forwards were splendid.

Guy's Team—P. D. B. Spence ; T. G. Robinson, F. H. B. Spence, D. F. Ryan, J. C. Hutchinson ; W. D. G. Jones, I. K. Thomas ; J. R. F. Popplewell, G. Lashmore, A. R. Clarke, W. H. Myburgh, J. A. Rowlett, J. Durr, K. P. Smith, R. A. P. Hogbin.

Guy's *v.* Old Leysians.

ON Saturday, December 1st, 1928, Guy's entertained Old Leysians at home, and gained a well-deserved victory by 2 goals and 1 try (13 points) to nil.

The whole team gave an excellent display and, in particular, it was pleasing to see the threes in such brilliant form. The forwards worked like Trojans and, judging by their form in recent games, appear to have settled down into quite a formidable pack. The backs had far more confidence, and on numerous occasions revelled in some excellent bouts of passing. Ryan, Robinson and P. D. B. Spence were outstanding, while I. K. Thomas performed splendidly at fly half.

This was Myburgh's last game for the Hospital, as he has obtained an appointment in South Africa and left England on Thursday last. After the match the ball was autographed with the signatures of the members of the team and presented to him. Myburgh has done a tremendous amount of work in furthering the interests of Rugby at Guy's, and he will always be remembered as one of the foremost hookers in recent years. He will, no doubt, remember his last game, as he converted the first try of the match. All at Guy's wish him every success in his new appointment.

In the first minute Thomas accepted a low pass from Jones, and F. H. B. Spence carried the movement to the visitors' 25. Rocyn Jones, the Welsh International, relieved, but another good three quarter movement broke down when Robinson failed to hold a pass from Spence.

A forward rush by the Old Leysians was checked by P. D. B. Spence, who drove them back with a fine kick to touch.

Guy's pressed and compelled the Old Boys to touch down. The visitors then made progress to our 25, but offside nullified any ground made. Our threes combined beautifully in a fine round of passing, but Robinson after a good effort was thrown into touch.

After Morgan had distinguished himself with an individual dribble, Ryan received from Thomas and, after a run of 30 yards, scored a magnificent try behind the posts, which Myburgh converted.

Several times our threes broke away, but the Old Leysians were leaving nothing to chance, and their tackling was sure and first class. A fine forward rush compelled the visitors to touch down, and just before half time Hogbin missed an easy chance to score from a penalty in front of the posts.

On resuming Guy's continued to attack, and Ryan made a splendid effort to drop a goal—the ball hit the upright and was cleared.

Another round of passing between the backs deserved a score, but Robinson was thrown into touch near the corner flag. From the line out Malone secured and threw himself over the line, but Hogbin missed the kick from an awkward angle.

The latter was next prominent with a fine run of 40 yards and carried play to the visitors' 25. Ryan found touch in the corner with a well-judged kick and followed up later with a brilliant run to the goal line. The visitor's left wing broke away on his own and looked a certain scorer, but P. D. B. Spence tackled in first class style, secured his man and relieved. Following a mark by Ryan, Robinson scored a wonderful try in the corner. Securing in midfield he ran very strongly and, in scoring his try, handed off no fewer than four opponents. In fact, he was collared on one occasion, but was able to wriggle himself free. Hogbin converted from a very difficult angle near the touch line.

Before the finish strong attacks were launched by Guy's, and Ryan was brought down on the line, but no further score resulted. The Old Leysians missed a splendid chance to score when Haylor had the line at his mercy, but elected to kick instead of passing.

Guy's Team—P. D. B. Spence; T. G. Robinson, D. F. Ryan, F. H. B. Spence, J. C. Hutchinson, I. K. Thomas, W. D. G. Jones; J. R. F. Popplewell, W. H. Myburgh, C. D. Malone, R. A. P. Hogbin, G. F. Lashmore, A. R. Clarke, K. P. Smith, T. Morgan.

Hospital Information, etc.

Birth.

FAST—On December 10th, 1928, at Stonefields, Blackheath, to Gwendolen, wife of John C. Fast, M.R.C.S., L.R.C.P.—a daughter.

Marriage.

JEFFREY—BAILEY—On November 5th, 1928, at Christchurch, Rangoon, by the Rev. W. Delahaye, John George Alexander Jeffrey, B.Sc., M.C., Edinburgh, to Beatrice Jane Bailey, Horsell, Surrey (Guy's 1917–23).

Change of Address.

J. Magnus Redding, F.R.C.S., 62, Portland Place, W.1. 'Phone: Langham 1758.

Leonard J. Martin, L.D.S., 15, Arcade Street, Ipswich (January 1st, 1929).

H. S. Gaussen, M.R.C.S., L.R.C.P., 14, Canning Road, Croydon.

W.A. Maggs, M.R.C.S., L.D.S., Weybourne, Cobham, Surrey.

W. Ettles, M.B., B.S., 8a, Stanwick Road, Kensington, W.14.

EDS. { O. P. / E. T. C.

GUY'S HOSPITAL GAZETTE

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PASSIM

We wish you the best in '29.
There's really no more to say;
So we only repeat the Niggers' wish—
A jolly good Christmas Day.

WE pass these four lines of Nigger sentiment on to those who were unfortunate enough not to hear them sung during last Tuesday's repetition of an annual triumph. They sum up the whole spirit of a Hospital Christmas with all that it seems to patients and everyone connected with their care.

The famous Hospital troupe paid their usual score of calls with an enthusiasm that could not be ascribed entirely to cocktail or costume, not that such sterling aids to vocal vigour were completely despised. We fear to consider the consequences if the drinks had been as mixed as the dresses—the cocktail counterpart of a Russian-Dutch peasant, we should imagine, could knock any "sidecar" sideways. As it was, a hundred choruses were thundered out with notable effect, Massa Johnson suitably shot up after each song, parodies proper and improper gleefully perpetrated in the presence of the most august persons, admirals rendered amnesic, pierrots perched in peril on their heads, while even Sisters confessed to constipation and niggers of an ebon hue all too rare in recent years toted barges or sat alone in the moonlight, all with the greatest success imaginable from a dewy morn in Ruth to an auburn eve in Astley.

Then dinner—but that is another story, and details are more than difficult to obtain, a merciful haze having descended at an early stage in the proceedings on those who took part.

Residents and all who enjoyed their entertainment owe a considerable debt of gratitude to Messrs. Bigby, Gibberd, Eckhoff and Shackle for yeoman services rendered in running the Surgery and both blocks of the Hospital during the course of the day, a task that demanded considerable physical endurance in addition to a complete sacrifice of much personal enjoyment.

As we write these lines the Hospital pudding has given up but half its plums—the week is yet ripe with coming events. Dazzling constellations of professional talent are still due to appear at ward concerts, Christmas trees continue to creak under their heavy burden, and that old dancing battlefield, the Nurses' Home, has yet to be the scene of the sternest struggle. The thought of our next number, bursting with vivid accounts of all the revelling, is the one thing that enables us to face the prospect of Saturday and its inevitable sobriety.

NIGGERS and noise rather remind us of that public-spirited body known as the People's League of Health, which is chiefly concerned with the organisation of preventive medicine throughout the community. On December 11th last, Sir Thomas Horder submitted to the Ministry of Health a resolution passed at the Society's meeting held earlier in the year, the text of which runs as follows:—

> "That in view of the fact that eminent neurologists and mental experts have emphasised the grave effect on the nervous system of noises which tend to increase the incidence of functional mental and nervous disorders in our midst, this Meeting urges upon the People's League of Health the desirability of calling the attention of the Government to the need for the control and diminution of preventable noises in our streets, and asks that the subject shall receive the serious attention of the Ministry of Health."

While the Nigger celebrations have a definite place in the ætiology of that distressing disorder known as Boxing Day laryngitis, we are unaware as yet of the appearance among either performers or audience of any functional trouble that could be due to their hearty efforts. If in future there is to be some curb on noise in public, an occasional binge in private should be all the more welcome.

WE learn that the collection of youngsters to be seen in the Colonnade early on Monday afternoon was connected with a visit to the dress rehearsal of the Lyceum pantomime, a privilege obtained through the kind offices of Mr. Steward and, no doubt, one of the brightest spots in the Christmas of children in the wards.

AMONG the coins collected by the carol party which serenaded the Nurses' Home on Christmas Eve there appeared a half-crown which was perhaps inadvertently thrown in mistake for a missile of a somewhat humbler nature. We are informed that the present possessor of the silver coin will be glad to return same to its original owner if a request is made via the GAZETTE Office.

WE are aked to announce that the Beddard Prize Fund, inaugurated in March, 1928, is to be closed during the next few days. The sum available amounts at the moment to £85, and it is requested that all those who intend to contribute will do so at once; subscriptions to be sent to Messrs. E. T. Clifton and E. C. Warner. It is hoped that the original aim of collecting £100 will be realised.

THE news that the Halley Stewart Trust has made a grant of £2,500 for the establishment at this hospital of a special clinic for the investigation of asthma in conjunction with similar activities at Great Ormond Street is very welcome indeed. Asthma rivals rheumatism among the non-fatal diseases as a cause of serious disability, both physical and financial to the unfortunate sufferer, but presents problems which are perhaps more amenable to elucidation along the lines laid down by the trustees.

MESSRS. FRADELLE & YOUNG were responsible for the excellent photographs of the cast and principals of the Musical Society's production of the *Pirates of Penzance* which appeared in our last issue. Copies of these photographs may be obtained from Mr. G. G. Ellis for the modest sum of half-a-crown.

Obituary.

Dr. Albert Shepperd.

ON December 6th, 1928, after years of distressing ill-health most patiently and courageously borne, Dr. Albert Shepperd, of Tulse Hill, passed away peacefully in a nursing home. Those who knew him can only look back with wonder and affection and a sense of great privilege that it was theirs to meet him and to see exemplified in his struggle one of the noblest kinds of human fortitude. It was not his to meet the sudden emergency which calls forth the best in many men, but rather the much harder task of facing the inevitable year by year, expecting that each winter might prove to be his last, and enduring without complaint a combination of symptoms and disabilities such as few, fortunately, are called upon to endure.

To the last he was concerned rather with the troubles of others and the inconveniences which he thought his illness was creating than with his own evident sufferings. With his resources crippled by incapacity for work, one of the last regrets he expressed before his death was that he would be unable to contribute this year to certain Christmas charities which he had supported in the past.

He died at the early age of 48. Educated at Guy's, he qualified L.S.A. in 1907, and had since practised in Brixton, where his sympathetic handling of their problems won him the affection of his patients. In recent years he had only been able to devote a very small part of his time to work, but he continued to pay visits to his surgery in a state of ill-health which would have caused most men to abandon the struggle long before.

Among his contributions to medical literature were papers on "Medical Practice in Stuart Times," and "The Future of State Medicine." He leaves a wife and two children, brave allies in his adversity, for whom all Guy's men and women will feel the deepest sympathy.

Post-Operative Pneumonia.

A Paper read before the Guy's Hospital Physical Society, on November 29th, 1928, by J. Croot, Esq.

MR. CHAIRMAN AND GENTLEMEN,—The fact that surgical procedures are followed by chest complications has been recognised for many years. The earliest reference to it that I have been able to find is an article by Norman Chevers[1] in the *Guy's Hospital Reports* of 1843 on the causes of death following operations. He says that of all the secondary complications—by which he excludes sepsis and hæmorrhage—pneumonia takes the heaviest toll of life. But it has not been universally recognised for as long as this. The Professor of Surgery at Harvard[2] writing in 1884 on some of the dangers of anæsthesia does not mention lung complications. In 1908 and 1911 William Pasteur[3] published an analysis of about 200 cases of post-operative pulmonary complication occurring at the Middlesex Hospital. His results, based entirely on a physical examination, are of particular interest as he first drew attention to the occurrence of massive collapse of the lung. The advent of X-rays showed that an abnormal condition of the chest after operation was more common than had hitherto been supposed, but, as will be seen later, it did not completely solve the problem of the cause or the nature of the condition.

If the statistics are examined it will be found that post-operative pulmonary complications are on the increase, but there is little doubt that it is only an apparent increase, due to a more skilful recognition of the condition in its milder forms. Many cases in the past were, and probably even now are, never diagnosed, being thrown into the convenient and heterogeneous group of "post-operative reaction." Since pulmonary complications are infinitely variable in intensity from very slight degrees up to the maximum of a gangrenous broncho-pneumonia, to give accurate figures is obviously impossible, but if we take as the minimum those cases which present an abnormality either on X-ray or careful physical examination an incidence of about 4 per cent. of all major operations is obtained. Similarly, the incidence for all abdominal operations, including hernias, is about 10 per cent. It is only right to say that the published figures of the last few years vary to an almost incredible extent. Mandl[4] of Berlin admits to an incidence of 8 per cent. for all operations and 14 per cent for laparotomies, while Scott and Cutler[5] of America claim an incidence of under 1 per cent. in the cases investigated by them. As we have just said, an average incidence may be taken as 4 per cent., and of these the vast majority are mild cases of short duration, presenting a fairly characteristic clinical picture and having an almost negligible mortality. It is with this type that this paper chiefly deals. In addition, there are cases of bronchitis which, perhaps strangely, are not common, typical lobar and broncho-pneumonia also uncommon, cases in which pre-existing quiescent lung disease, usually tubercular, is lighted up, cases of pulmonary infection and, finally, the spectacular but disastrous complication of embolism of the pulmonary artery. Considerations of space prevent more than a mention of these conditions, and we will pass on to the common complication—the ordinary post-operative pneumonia.

The symptoms are legion. One observer[6] has even gone so far as to tabulate these and to work out the frequency of occurrence of each individual symptom in a large series of cases. For obvious reasons these figures cannot be quoted, but they are interesting in showing that such a symptom as an increased respiratory rate may be absent, and that the temperature may remain normal throughout. But the clinical picture is fairly characteristic even if all the symptoms are not present. A day or two after the operation the patient is seen to be not quite so well. His temperature has gone up suddenly to 101° and there is a slight cough, with next day some greenish mucopurulent sputum, quite unlike the rusty sputum of lobar pneumonia. He may be cyanosed, the respiratory and pulse rates have gone up and there is often pain in the chest. In a certain number of cases the acuteness of onset is a marked feature; these patients are usually dyspnœic, and may be markedly so. On physical examination it is seen that the lower half of one side of the chest, usually the right, is scarcely moving, and gives an impaired note on percussion. Sometimes bronchial breathing is present from the start, but the breath sounds may be weak at first; after 24 hours bronchial breathing and whispered pectoriloquy are usually clearly heard. The physical signs are those of a typical lobar pneumonia, but the patient is not ill enough; the marked physical signs and the bed chart are in striking contrast to the condition of the patient, which is usually fairly good. Instead of a degree of illness corresponding to the sum of lobar pneumonia and post-operative weakness we get a patient who is not so ill as a previously healthy

man struck down by lobar pneumonia. Again, the heart, which in lobar pneumonia retains its normal position or is slightly shifted away from the affected side, is in a proportion of these cases —about one-sixth—displaced towards the affected side. Clinically, this is often masked by emphysema of the unaffected part of the lungs, but Pasteur described several cases, and many others have been shown radiographically. The average duration of the disease is four to five days ; the temperature nearly always falls by lysis, thereby exhibiting another difference from typical lobar pneumonia.

Of the predisposing causes, age does not seem to be important except that young children rarely get it. It is at least twice as common in males as females. Pasteur found it more commonly in hospital than in private practice, and considered this to be due to the " purity of the air." This difference, if it exists, is probably due to the general condition of the patients in the two cases, particularly with reference to oral sepsis and pre-existing infection of the upper respiratory tract. The latter in particular is an important predisposing cause. As the figures quoted show, pneumonia occurs much more often after abdominal operations than after others, and it increases in frequency the higher the position of the abdominal incision, and is most common after operations upon the stomach and biliary passages. It is at least twice as common in upper abdominal operations as in lower, and at least twice as common in the latter as it is in non-abdominal operations. Pulmonary complications are more common when the weather conditions are adverse.

Finally, we come to the anæsthetic. Firstly, the duration of the anæsthetic. As to the influence of this I have been unable to obtain any information, but it should be noted that those operations which are most frequently followed by pneumonia—namely, those on the stomach and biliary apparatus—are, on the whole, those that take longest to perform. As for the anæsthetic itself, it was at one time fashionable to blame the irritating effect of ether for all these complications, but, though they are slightly more common after ether, the difference is not very great, whether the anæsthetic is ether, gas-oxygen, spinal or local novocaine. In this connection it must be borne in mind that those patients who are obviously suffering from pulmonary disease, but upon whom it is necessary for an operation to be performed, form a large proportion of those who are given local anæsthetics, and if a general anæsthetic is administered to such patients gas-oxygen is usually used. Probably gas-oxygen and local anæsthesia would have a pneumonia rate that compared more favourably with that of ether were a similar series of cases investigated.

As soon as we begin to consider the nature of the lung lesion and the way in which it is produced we are at once faced with the difficulty of determining how many conditions we group under the term post-operative pneumonia, even confining ourselves to the fairly mild, relatively non-fatal type of pulmonary complication which is much the most common. Three processes have been suggested which may or may not occur in combination ; they are inhalation pneumonia, minute embolism and massive collapse.

Evidence for the occurrence of inhalation pneumonia is seen in the distribution of the lesions in the lungs, these being about twice as common on the right side as on the left. This corresponds to the distribution of inspired foreign bodies. More direct evidence has been brought forward by Whipple.[6] By examination of the sputum of all patients before and after operation he found, firstly, that the Group IV pneumococcus was one of the most common organisms in the normal saliva ; secondly, that it was the most common organism in the sputum of patients with post-operative pneumonia ; and, thirdly, that there was a definite connection between the presence of the Group IV pneumococcus in the saliva before operation and the occurrence of a post-operative pneumonia in which this organism predominated in the sputum. Further, he found that agglutinins for the Group IV pneumococcus, not previously present, appeared in the blood of the majority of patients with pneumonia within a day or so of the onset of the disease. Objections have been raised to inhalation as a cause of pneumonia on the grounds that experiments have shown the difficulty of producing pneumonia by bronchial insufflation of micro-organisms. For instance, in animals it is quite impossible except with enormous doses. Again, in America, during the influenza epidemic of a few years ago, volunteers—healthy persons—were obtained who sat by the bedsides of patients, leant over them and deliberately inhaled the droplets coughed out by them while in the most acute stage of the disease. Very few of these volunteers contracted influenza in spite of such exposure to infection and the really large doses of micro-organisms that they must have inhaled. But neither of these experiments were made under conditions comparable to those of a patient during and immediately after an operation. The application of the results of animal experiments to human beings is notoriously misleading, and the results of experiments on healthy human beings must be applied with reservations to the human beings we are considering. During

and after an operation under general anæsthetic the lungs themselves are in a condition of irritability, particularly after ether, the cough reflex is temporarily suppressed, the patient is lying in bed in a state of more or less enforced inactivity and, in fact, the conditions are in no way comparable to those of the experiments cited above. The weight of evidence seems to be in favour of inhalation as a cause of pneumonia, at any rate following a general anæsthetic.

It is claimed by some that minute embolism is the cause of at least 50 per cent. of post-operative pneumonia. The process is depicted as a dissemination through the lung of multitudes of minute emboli derived usually from the operative field, and consisting of detached thrombi from the veins cut in the incision. This suggestion has received much support in America, where the question of apportioning the blame for post-anæsthetic pneumonia is, or was a few years ago, a burning one. It would be unfair to say that it has been eagerly embraced by the anæsthetists, for the President of the American Association of Aæsthetists is reputed to have said in 1921 that only 3 per cent. of anæsthetists believed in the embolic theory.[7] Such a theory certainly accounts for many of the facts ; for instance, that pneumonia is common even with expert anæsthetists, where, as were inhalation the only factor, it might be thought that a really smooth induction and a level anæsthesia would practically cut this out, whereas in practice pneumonia is almost as common after expert anæsthesia as after that which might be described as merely "competent."

Cutler and Hunt,[7] the great protagonists of the embolic theory, have shown that pneumonia occurs with a frequency corresponding to the mobility of the incision. We have already seen that it is more common after upper abdominal incisions than after lower ones, and these upper incisions must be more disturbed after the operation by respiratory movements. If embolism alone can cause pneumonia it might be thought that post-parturition would be at any rate fairly common, as the conditions at the placental site would be extremely favourable for the separation of small thrombi and their entrance into the venous system. Again, it might be expected that the emboli would be evenly distributed throughout the lungs, whereas a post-operative pneumonia is nearly always unilateral and usually confined to one lower lobe. The conclusion reached is that while embolism may play a part in the production of pneumonia, it is probably never the sole cause.

Thirdly, we come to consider massive collapse of the lung. That this does occur as a post-operative event there is now no doubt, though Cutler and Hunt in an examination of many hundreds of chests after operation, in which they found 63 with X-ray evidence of disease, failed to observe a single case. It is strange that they should have done this, and we wonder how much their observations and conclusions as to embolism are worth. As to the actual condition of the lung when in a state of massive collapse it is hard to speak with certainty, as few uncomplicated cases have ever come to autopsy, massive collapse in itself not being a cause of death. Santée[8] describes two cases, one a patient who died on the table during a hysterectomy, and another who died suddenly following a septic abortion. In each case he found massive collapse of both lower lobes, and describes them as being small, firm, airless and sinking in water. Jackson and Lee[16] describe a case of a negress who died following a Cæsarean section. Three days after the operation she developed what was at first thought to be pneumonia in her left chest. Examination revealed no alteration in percussion, but bronchial breathing over the whole left lung, a few moist rales at the right base and apparent shifting of the mediastinum to the left side. The diagnosis was pneumonia in the left chest, but massive collapse was also kept in mind. The patient died the same day. An autopsy was performed at the Pennsylvania Hospital and it was found that, apart from a slight localised peritonitis around the uterus quite insufficient to be a cause of death, everything was normal except the lungs. Both upper lobes were normal, rather strangely in view of the fact that bronchial breathing had been heard over the left upper lobe. The right lower lobe showed areas of lobular collapse interspersed with normal lung. The left lower lobe was extremely dark, quite limp and absolutely non-air containing. On cutting into it, it was almost pitch black and on pressing it thick muco-pus was exuded from the bronchioles. Dissection of the bronchial tree revealed tenacious muco-pus, filling all the bronchi leading to the left lower lobe. Microscopical examination of the collapsed part showed that there was practically complete atelectasis—in many areas not a vestige of an alveolar space remained. The alveolar capillaries were much distended with red blood cells. The bronchioles were filled with exudate containing polymorphs and small mononuclear cells, but the bronchiolar walls did not show evidence of surrounding infection comparable to the usual picture of broncho pneumonia. This is the only account I have been able to find of the post-mortem appearances of uncomplicated massive collapse.

The symptoms of this condition have already been described. They are practically indistinguish-

able from those of pneumonia, the physical signs are often of no help in the differential diagnosis, and it is for this reason that the condition, although essentially different from pneumonia, is often not diagnosed. This is not to imply that it is of vast importance whether it is diagnosed or not, excepting firstly for prognostic purposes, and secondly because one of the basic principles in diagnosis of chest conditions is to form a mental picture of the state of the inside from an examination of the outside. There is one sign, pathognomonic of massive collapse, and that is shifting of the mediastinum towards the affected side. This is not always demonstrable clinically, but can usually be seen by X-ray. A certain number of cases show very little displacement of the mediastinum, but a lateral view of the chest reveals displacement of the inter-lobar septum; a more difficult condition to demonstrate, but one which if found is also definite evidence of massive collapse. It is naturally important to exclude such causes of mediastinal or septal displacement as fluid in the opposite side of the chest or a fibroid lung, but if the diagnosis lies between pneumonic consolidation and massive collapse, displacement of the mediastinum towards the affected side is a certain sign that the latter condition is present. The easiest method of determining deviation of the mediastinum is by the position of the apex beat, provided either that the position of this was known beforehand or that the displacement is fairly gross, say, an inch or more.

The mechanism by which the collapse is brought about has been much discussed. Pasteur thought it was caused by paralysis of the diaphragm due to reflex inhibition from the irritated peritoneum. He supported his view by a description of eight cases of diphtheria with respiratory complications. Clinically, five of them had paralysis of the diaphragm and three had not. At autopsy it was found that the five who had had paralysis of the diaphragm all had massive collapse of both lower lobes, and in the other three the lower lobes were normal. He thought further that a unilatural diaphragmatic paralysis such as might result from peritoneal irritation on one side of the abdominal cavity would cause collapse of the corresponding lower lobe. That this is not so is now well known, and it is well demonstrated by the case of a woman in one of our wards recently. She was admitted for fainting attacks and when examined was found, in addition to heart disease, to have a paralysed left half of her diaphragm, but no signs of collapse in her left lower lobe. The operation of phrenecotomy for therapeutic purposes, which we do not have much opportunity of seeing, does not cause collapse of the lower lobe, although that half of the diaphragm is almost completely paralysed. Additional evidence, although not reliable as applied to human beings, is supplied by Elliott[9] and Dingley,[9] who performed hemisection of the cord in animals at the level of the third cervical segment, thereby paralysing all the muscles of respiration on one side. No collapse of the lung followed. These workers in 1914 analysed the possible mechanisms of massive collapse and came to the conclusion that it was due to blockage of bronchioles by inflammatory œdema and secretion followed by absorption of air beyond the block. As long ago as 1878 it had been shown that blockage of a bronchus caused collapse of the lung beyond.[10] About 1914 a long discussion was carried on in the medical press; Briscoe[11] pointed out that the period of rest with quiet breathing which followed an anæsthetic would favour accumulation of secretions, and one other writer expressed his opinion that all patients after operation should be kept lying on their stomachs. During the Great War many cases of massive collapse following gunshot wounds of the chest were described, particularly by Sir John Rose Bradford.[12] An interesting point about his series of cases is that many of them followed non-penetrating wounds and a few were contralateral, but he offered no explanation of this. It has been suggested that a man with a unilateral chest wound would naturally lie upon his unwounded side, and the consequent immobilisation of this side would cause collapse of the lung. Other cases have been described occurring in pleurisy,[13] meningitis[14] and acute anterior poliomyelitis.[15]

In 1925 Chevalier Jackson and Lee[16] performed bronchoscopies on a series of cases of massive collapse. The first case reported by them is worth quoting. A boy of 12 was operated on under ether for acute appendicitis, and a localised abscess was found and drained. For 48 hours the patient was comfortable, his temperature ranging round 99°, the pulse about 100 and the respirations about 29. It is significant that he was kept lying continuously on his right side to facilitate drainage. On the morning of the third day he was awakened by a short but severe attack of coughing, and three hours later his temperature rose to 101.3°, pulse to 120 and respirations to 32. Efforts to talk caused discomfort and he had a choking feeling in his throat. Physical examination showed nothing abnormal save distant breath sounds over the bases of both lungs. By mid-day he seemed more ill, the pulse rate was 140 and respirations were 52 per minute. Examination showed dulness posteriorly over the whole

right lung with tubular breathing. The note over the left lung was hyper-resonant. The heart appeared to be moved to the right. At the level of the fifth rib the superficial cardiac dulness extended only three centimetres to the left of the mid line and fully six centimetres to the right. The heart sounds were heard better on the right side and were very distinct in the right axilla. He was seen by Dr. Lee, who diagnosed pulmonary collapse, and X-ray showed collapse of the middle and lower lobes of the right lung. The next two days showed very little change in the patient's condition; he was dyspnœic and coughed occasionally bringing up thick grayish or greenish sputum. Late in the afternoon of the second day —fifth post-operative—bronchoscopy was performed. Inflammation of the bronchi leading to the middle and lower lobes of the right lung was observed, and they contained tenacious mucus, entirely closing some of the air passages. The bronchi of the left lung were only slightly inflamed and were patent. As much as possible of the mucus was removed. Physical and X-ray examination immediately after this showed that there was much more air in the lung, breath sounds were practically normal, and respiration was easier and slower. The next four days showed steady improvement, and on the fifth day following the collapse another bronchoscopy was performed. It showed the bronchi of the right lung to be still rather inflamed, but to contain very little mucus and to be quite patent. Aeration was practically normal. Subsequently, the patient made an uneventful recovery. In contrast to this case of prompt operative relief another is described of a boy of 14, again operated on for acute appendicitis, who developed signs of massive collapse of his right lung on the fifth day after operation. No bronchoscopy was performed, but almost daily X-ray examinations of the chest were made, showing gradual aeration of the right lung with the return of the mediastinum to its normal position. This was not complete until 42 days had elapsed.

In view of the evidence it seems certain that massive collapse is brought about by plugging of the bronchi. How often it occurs we are not at present in a position to state. Boland and Sheret[17] claim to have shown that all post-operative pneumonias are really, in fact, cases of massive collapse, and describe a slightly mottled X-ray shadow as the first abnormality. They consider this to be due to many small areas of lobular collapse. It is a matter of opinion whether this stage can be called massive collapse. In this paper I should like to put forward the view that a large proportion of patients after operation, particularly upper abdominal operations, get some of their bronchi plugged with mucus. This leads to a collapse of the lower lobes which may be lobar or lobular in distribution. The majority of these patients show little or no pyrexia, no symptoms, and get perfectly well, convalescence not being interrupted. Of the other cases, some go on to a real massive collapse of one or both basal lobes, and present the characteristic clinical features of such a condition. This may or may not clear up without the establishment of lobar pneumonia. The other cases may go on from a lobular collapse to a broncho-pneumonia without passing through the stage of massive collapse. It will be seen that this theory of the origin of post-operative pneumonia is, briefly, collapse of the lungs, which may go on to pneumonia. Pneumonia will not arise except in a pre-existing collapsed lobe. The most probable way in which pneumonia starts in a collapsed lung is by direct spread from the bronchi, but embolism may play a part in some cases, the emboli coming from the wound or some septic focus in the body. Sepsis in the wound is not necessary, although Pasteur found that this predisposed to pneumonia, but if the emboli are septic a more virulent type of pneumonia may be expected.

The causes of accumulation of mucus in the bronchi are excessive secretion, particularly in ether cases, and an inability to get rid of it. Coughing is in abeyance, owing to voluntary effort to avoid pain. Tight dressings restrict respiration and thus tend to a stagnant condition in the bronchi. The high incidence in men may be explained by the fact that their respiration is mainly abdominal and is more interfered with by dressings than in the case of women. Others have suggested that the respiratory passages in men are in a state of mild chronic irritation due to smoking.

There is just one other type of post-operative pneumonia which is best illustrated by a story. A surgeon arranged to operate on a patient in a distant town on a certain date. On the morning of the operation he was rung up by the family doctor to say he was sorry but the operation would have to be postponed, as the patient was suffering from pneumonia. Now that, of course, was not a case of post-operative pneumonia, but if the operation had been fixed for two days earlier it would have been.

Among the obvious suggestions for the prophylaxis of pulmonary complications is the postponement of the operation if possible in the presence of inflammation of the air passages If operation is essential under these conditions a non-irritating anæsthetic such as gas-oxygen or

even a local should be used. The administration of atropine before operation is rational, and during the operation gentle handling of the tissues, particularly by retractors, should lessen the tendency to embolism. Whipple[6] has tried different kinds of prophylaxis in two of his wards. In one 15 minims of tincture of digitalis was given four times daily for the 36 hours preceding operation. In the other counter irritation to the chest after operation by camphor and turpentine was used. The latter method seems to be the more successful. Hyper-ventilation of the lungs should tend to prevent massive collapse. Two methods of doing this have been suggested, administration of carbon dioxide at the end of anæsthesia[18] and for the next 24 hours, and breathing exercises after operation. Nursing in the semi-Fowler position is almost universally advised, but Boland and Sheret recommend the raising of the foot of the bed some 20 inches for the first 24 hours. Tight bandaging of the lower part of the chest should be avoided. Perhaps the most important is the avoidance of large amounts of sedatives, particularly morphia. As Chevalier Jackson has said, "The cough reflex is the watch dog of the lungs," and the watch dog should not be drugged unnecessarily.

The treatment of the condition when established depends largely upon the condition of the lung, whether it is in the collapsed or in the pneumonic state. When pneumonia is established the treatment is that of any other pneumonia, but when massive collapse is present there are other and more energetic procedures which may be tried. Administration of carbon dioxide to induce hyperventilation has been recommended; breathing exercises are another obvious method of doing this. Santée, by placing his patients on their sound side and then rapidly rolling them backwards and forwards, obtains dramatic cures, others even more heroic believing the symptoms to be due to the mediastinal displacement induce an artificial pneumothorax on the affected side.[17] Jackson and Lee recommend bronchoscopic aspiration of the mucus; possibly it is justifiable in their hands.

CONCLUSIONS

1. 10 per cent. of abdominal operations and 4 per cent. of all operations are followed by pulmonary complications. They are twice as common in men as in women.
2. Predisposing causes are: Pre-existing inflammation of the respiratory tract, suppression of coughing and restriction of respiration.
3. Massive collapse is a common sequel of operations. It usually clears up without trouble in a few days, but pneumonia may supervene.
4. Some methods of treating and preventing massive collapse are described.

It is not for me to emphasise the practical importance of post-operative pneumonia, both from a medical and a surgical point of view. It is of peculiar interest as being one of the very few diseases which start, run their course, and terminate while the patient is in hospital.

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Notices.

Guy's Hospital Medical School.

FINAL F.R.C.S. COURSE

February–May, 1929

The next Final F.R.C.S. Course will commence on February 27th, 1929.

A few vacancies have been reserved for Guy's men, and those wishing to take the Course should make immediate application.

T. B. JOHNSTON,
Dean of the Medical School.

Guy's Hospital, S.E.1.
December 21st, 1928.

Change of Address.

G. E. Hansen, L.D.S., 313, Belmont Buildings, Government Street, Victoria, B.C.

Surgeon-Cmdr. H. L. Peregrine, R.N., *H.M.S. Adventure*, Atlantic Fleet, c/o G.P.O., London.

J. Magnus Redding, F.R.C.S., **65**, *not* 62, Portland Place, W.1. 'Phone: Langham 1758.

The "Niggers," 1928.

"HERE we are, the Niggers, again on Christmas Day." Well, it's happened again. Once more the Niggers have come and gone, once more the now familiar entrance and exit choruses have echoed in and out of each ward accompanied by as motley a rabble of individuals as could be found in the most vivid imagination. Real buck niggers mingled with beautiful Dutch girls, distinguished Admirals of the Fleet rubbed shoulders with ginger-headed A.B.'s, officers of the church walked arm-in-arm with Mexican bandits, and cow-punchers drank beer with respectable hospital sisters.

The choruses with which this noisy crowd announced itself and dismissed itself in each ward were the same choruses we have heard for a number of years, but they stand the recurrent strain very well indeed and give the Niggers' performance a friendly air of permanence in spite of the change of cast and the change of songs and riddles each year. Furthermore, the old arrangement of three songs and three riddles in each ward was preserved and the same order of progress from ward to ward as last year was retained.

Starting in Ruth at 11.30 a.m. on Christmas Day, the Niggers paraded hilariously round the Hospital until 7.15 in the evening, when they brought their circumambulation to a glorious close —and without any casualties, in spite of the usual essential pauses for refreshment.

As in 1926 and 1927, Oliver Ive played the Niggers' accompaniments, and showed his usual agility in skipping odd bars—on the piano only —in order to keep up with the extremely erratic vocal efforts produced by some of the Niggers. We cannot imagine what will happen when Ive leaves Guy's. His successor will have a most unenviable task. It would take far too long to follow the Niggers from ward to ward—it took them nearly eight hours—and so we will simply quote from some of the parodies of the songs, which were unusually prominent both in number and in merit this year.

In Queen, E. J. Pye-Smith, looking like Rudolph Valentino and singing like—well, Pye-Smith, produced this nice obstetrical parody of *Down South* :—

Hurry up, hurry up, all the time
On the go, on the go, rain or shine.
First in Queen, then in Vic—what a life !
Poor R.O. ! Dreadful show !
Foggy days, foggy nights, winter snows,
What a chill, what a chill, north wind blows.
What a fag, pack a bag, go away
Or you'll get a B.B.A.

Chorus—
If you don't like yelling babies,
If you don't like fleas and scabies,
If you don't like bugs that say " How d'ye do "—
Don't be an R.O.
On the District they're no peaches,
If you don't like twins and breaches,
If you don't like buxom swivel-eyed gamps—
Don't be an R.O.
You can cycle under the Arch
Down into Trinity Street :
If the Nurses give you a call,
It's such a treat.
If you don't like babies squalling,
If you don't like externs calling,
If you want to miss the Sister in Vic—
Don't be an R.O.

Going on to Mary we were treated to this sad lament from W. F. Hudson, who had " come over all Apache " :—

I've never been a fortunate H.P.
Think Sister and the Nurses must hate me.
When I go round, excuses they make me.
I never find a Nursie to take me.
But soon I'm

Chorus—
Gonna get a Nurse,
Because I ought to have a Nurse,
Because I never get a Nurse.
That's why I'm gonna get a Nurse.

The Niggers and Others in Mary.

Reproduced by the courtesy of the Proprietors of "The Daily Sketch."

She must find the right bed letter,
She must learn to treat me better,
If she don't I'll curse,
Because I ought to have a Nurse.
When I see the strings she develops wings,
She's such a beauty.
Every little pro. says she's got to go
'Cause she's off duty.
But still I'm gonna get a Nurse,
Because I ought to have a Nurse,
Because I never have a Nurse.
That's why I'm gonna getta Nurse.

In Bright the O.P.O.'s were in magnificent form in their local version of *In the Woodshed She Said She Would*, which brought tears to our eyes, and ran like this :—

Here to entertain or bore you,
Stand the O.P.O.'s before you.
We see the folk no others will treat,
Waiting there in rows, for the O.P.O.'s—
Many more are waiting in the street.

Chorus—
They come along to see us on the wrong day.
And on the wrong day we say "No."
We send them off to see the Dental House Surgeon,
But to the dentist they seldom go.
Departments return them duly,
Their notes are so short and sweet.
In the end we have to write upon their letters
Once every fortnight the word "Repeat."

After dinner in the wards we were treated to moans in Stephen, and then, in Addison, we heard S. I. Abrahams sing, to the tune of *My Blue Heaven* :—

Day is ending,
I am wending,
After my cup of tea,
To the Dispensary.
Bottles filling,
Charge one shilling.
What am I going to get ?
Listen to me !

Chorus—
Mist. Acidi Co.,
The best stuff I know,
I've got it on my Green Ticket.
A Mercury Pill,
If baby is ill,
I've got it on my Green Ticket.
I've got Cod Liver Oil and Malt because I'm getting thin,
With Epsom Salts and lots of Liquid Paraffin,
A bottle of "Rep,"
With plenty of pep,
I've got it on my Green Ticket.

Next we passed on to Martha, where W. S. McConnell, magnificently Dutch and female, gave us this version of *Someone* —

Of all the wards I know, I'd rather
Spend just a night or two in Martha.
Mainly because they've stored some Nurses in that ward
Who're rather cute.
Some Nurses there are mild and holy,
Some have figures like a roly-poly.
But all of them are bright, and modesty is quite
Their strongest suit.
I have felt the thrill of their seduction,
And if ever I should get obstruction,
I should like to be in Martha—where you get what you want.

Chorus—
Someone to nurse you, and someone to curse you,
And someone to make you her own.
Someone to fall for, and someone to call for,
And someone to dress you alone.
Someone who daily takes temperatures,
Someone who gaily will guess your pulse and respirations.
Someone who'll urge on a bashful House-Surgeon,
And someone to put you to bed.

In Martha also we were given a pointedly topical version of *How Long Has This Been Going On* ? by Mr. Turner's H.S. :—

Philip was bashful and shy,
He blushed when patients passed by.
He was embarrassed, oh my,
When he heard in the Park a patient remark :

Chorus—
It had never come down
Till the other night.
How long has this been coming down ?
I was, oh, so run down
Till you put me right.
How long has this been coming down ?
You'd hum, "It's come,
I can feel it twixt my finger and my thumb."
Gee, oh gosh, oh golly !
Where did it come from ?
How long has this been coming down ?

After witnessing the usual contest between the Niggers and 700 school children in Out-Patients, we went to Pat and Sam and heard E. T. Conybeare carefully and successfully steer himself through this intricate rendering of *Constantinople* :—

Take-in dressers daily stand
The take-in firm a tea
Out in the Surgery.
When a certain surgeon comes,
One thing there's sure to be
Laid out especially.
Of old we know the way his fancy leans,
"I think I'd like to try a few sardines."

Chorus—
Frankie Steward, he's the fellow who will have a tin of sardines for tea,
Frankie Steward, he considers that they contain tons of Vitamin D.
F.R.A.N.K.I.E.S.T.E.W.A.R.D., show your pluck, now try your luck, and sing it aloud with me,
Frankie Steward, that's the name to conjure up visions of fish for tea.

In the same ward J. E. Morton, looking a perfect piratical gentleman, became topical in *I Never Dreamt* :—

We've snatched some goitres,
And when Slecky loiters,
They're the sort that don't last long.
But when he's snappy,
We all feel more happy,
And nothing at all goes wrong.

Chorus—
I've seen their pulse rise very high,
I've known the surgeon's mouth go dry,
But he never fails to get a thyroid free.
And if we give them Lugol's first,
And never catch them at their worst,
Then I've never known him fail to get a thyroid free.
Little did I dream that he could be so very cool,
When of bright red blood there seems to be a great big pool.
"How is she, tell me, Archie, do,
And can we ever pull her through?"
But he never fails to get a thyroid free.

Having had our tea and been nearly deafened by a superb choral effort on *Chloe* in Christopher, we went to Job, where J. R. Rickett became laudatory to the tune of *Lucky in Love*:—

Warded in Job,
Warded in Job,
What else matters if you're warded in Job?
Good things to eat,
Sister's a treat,
And Nursie baths you from your head to your feet.
George blows in every morning at ten,
Philip snatches your appendix, and then,
If you're warded in Job,
Every dressing is a blessing,
When you're warded in Job.

We then had prunes in Naaman, wood and weakness in Luke, cloisters in Lazarus, Bazunka trees and acrobatics in Lydia and cats in Cornelius before we ultimately reached Astley-Cooper, where Massa Johnson, as a final effort, produced this parody:—

Forty-seven ginger-headed Nurses,
Walking up and down the Colonnade.
When their tea's been made
And their thirst alayed,
Then they'll start the party
With a "Heave ho, my hearty!"
When there's forty-seven ginger-headed Nurses,
You can bet you're going to hear their genteel curses.
And as they reach the Park,
There'll be one mighty bark,
From forty-seven ginger-headed Nurses.

In conclusion, we should like to congratulate Massa Johnson on his beard, E. T. Clifton on his dancing, E. M. B. West on his strength and persistence with the Big Drum, the Big Drum on its tenacity in resisting Mr. West's efforts to break it, T. G. Scott on his ability to sing in any position, and the audiences on their good fortune in failing to avoid the Niggers.

A Tale of Two Guineas.

or Why House Surgeon is Such a Paying Game.

Dr. Sillinger.

Dear Sir.

Would you be so kind as to give me. Your opinion. As regards to the presant state of my Stomack. Case No 1035. You will remember me because you said to the other Doctors it was an interestin case. I have much trouble and pain. Am to a great extent handicapped through same. And my employers have stood me off. *And with no compensation.* And through same I have to starve, also wife and children. And my trade Union will take up the case but want your Opinion.

Awaiting with Eagerness
Your Kind reply
I am Dear Sir
Yours faithfully,
WILLIAM LEWIS LACK.

Dear Smith,—

Get this man up and sting him the usual for a report.

Dear Dr. Smith

I now deem it a pleasure. In writing you. In reference to my accident of deleted stomack which I got at work. And to appreciate you for your kindness. In the surgeery On my Visit to you. I enclos the specialists report on a Green form which I copied out hoping it will be of use to you. I have been in communicated with my Oddfellows and Trade Union and they both will help. 2 bodies fighting the same case. For Legal advice thereon I sent your name as You told me.

I remain Dear sir
Your obednien servant
W. L. LACK.

DELETED STOMACK REPORT

Stomack Normal in Size and Shape, but Olorices are rather Greater Carvalive 4 inch the 1 bac. Large gas contents. No innigurly or lennasters. Cap enlonated but otherwise Normal.

Linvivitus.

3rd Tent of Order of Oddfellows.
123/223

Dr. Smith.

Dear Sir,—

We would be grateful if you would furnish us with a full statement of the injuries to the stomach sustained by Brother Lack in the course of his work.

It would assist us materially if the said statement could be returned by return of post.

Yours faithfully,
A. BENMAID,
Sec.

Shad Thames Sub-Branch,
National Union of Railwaymen.

Dr. Smith.

Dear Sir,—

Kindly supply us with details of the dilated stomach which our member, Brother Lack, a/3031, sustained at his work of passing bricks in the goods yard at Islington on 4/xi/1927. It will assist us in our claim against the Railway Company.

Yours faithfully, A. S. TINDAL ,*Branch Sec.*

Precis of reply to above

I am preparing a detailed report, as requested, with all possible haste, and on receipt of £1 1*s.* will be pleased to forward same.

Result—nothing more heard from anyone.

Asepsis in Root Canal Treatment.

A Clinical Lecture by Arthur Bulleid, Esq.

GENTLEMEN,—The problem of the sterilisation of dead teeth in one that must at all times interest the conscientious dental surgeon, and I should like in this short lecture to elaborate a technique which aims at attempting to demonstrate as far as possible how this may be accomplished.

I am not concerned here with the question as to whether dead teeth should at any time be retained in a denture, or whether it is even possible to render a dead tooth sterile for any length of time. Rather am I concerned in this lecture with describing methods which have as their aim the proving of the sterility of root canals prior to the insertion of permanent root fillings. I would, however, state candidly at the onset that, before a dead tooth is retained in the mouth, its possible effect on the general health should be carefully studied. It is manifestly wrong to retain a possible focus of infection in the mouth if such focus is definitely going to cause havoc to the general health. If both medical and dental practitioner have, in consultation, arrived at the conclusion that dental sepsis is even a part factor in any systemic lesion from which the patient may be suffering, then extraction and not conservation should be the order of the day.

If, on the other hand—and there are always two sides of any controversial question—the patient happens to be in normal health and the dental surgeon is desirous of preserving a useful functional tooth, then the aim should be to make and keep such tooth as healthy as possible. It should, however, always be remembered that however carefully a dead tooth is treated and conserved, it is always an area of negative resistance and a potential nidus for bacterial propagation. It is well to remind a patient that if the general health later on should warrant its extraction, such treatment does not necessarily indicate lack of care or foresight on the part of the dental surgeon concerned.

In fact, having carefully weighed up the evidence for and against retention, and having decided on the former, the next thing to do is to render the dead tooth or teeth concerned as healthy as possible by modern technique. Naturally, it is much more easy to deal with single-rooted teeth than it is with multiple-rooted ones, but the technique to be explained aims as far as possible in being adaptable to any tooth. If multiple-rooted teeth are being treated, then each root canal should be considered as a separate entity and be investigated separately.

In order to investigate the question of the sterility of a root canal the dental surgeon has two methods open to him—viz., the direct smear and the cultural method. The latter is by far the more delicate and reliable, as has been abundantly proved by reference to such a disease as diphtheria. A direct examination of a smear from a diphtheritic membrane may be negative, or at the best inconclusive, and the only positive proof of the diphtheria is the finding of the *B. diphtheriæ* in cultures on blood-serum. It is just the same in dealing with dental infection, and I would strongly stress here that no root canal should be permanently filled until it has been proved sterile by cultural examination. Even in cultural examination, a positive result is of greater importance and is more reliable than a negative one, because the former definitely shows that infection is present, whereas a negative is at the best a little inconclusive. Appleton, in the *Dental Cosmos* of March, 1924, lays stress on this point, and it is one that should be recognised. As pointed out by him, the microscopical examination of smears from root canals is an adaptation of the method described by Dumas and Carrel.

Put briefly, this method of smear examination is one that has as its object the demonstration of the fact that with the improvement in the condition of infected wounds by the use of efficient antiseptics, the number of bacteria found in the

smear is lessened. By making a thin smear on a clear glass slide, fixing, staining with some simple aniline dye, and counting the number of bacteria present in a certain number of fields of the microscope, an average of the number of bacteria per field can be struck. With treatment this number should be reduced, and if it remains stationary or increases, then it indicates that there is some arrest in the process of sterilisation.

Carrel and Debelly drew attention to the fact that with the progress of disinfection a change occurs in the nature of the exudate. At first polymorphonuclear leucocytes predominate, but with the decrease in the number of bacteria present the mononuclears increase in number.

Naturally, in dealing with the sterilisation of dead teeth, there is no need to emphasise the absolute necessity of avoiding extraneous mouth contamination, and therefore the employment of "rubber dam" is almost a *sine qua non.*

It may be of interest if I diverge a little from the actual matter in hand to say that in doing any bacteriological work in the mouth the preliminary technique of sterilisation of the tissues to avoid extraneous contamination is all-important. If for any reason it is impossible to apply "rubber dam," then the area round the tooth being examined should be clamped off with sterile cotton-wool rolls held in position on either side of the gum by "winged" clamps. The area of gum and the crown of the tooth itself should be dried with a sterile pledget of cotton-wool, painted over with absolute alcohol and further dried by hot air from the "chip" syringe, and finally painted over with tinct. iodi. mitis two or three times, allowing the tincture to dry between applications.

As mentioned in a previous paragraph, there are two methods open to the dental surgeon investigating the question of sterility of root canals :—

(1) The method of direct smear ;
(2) The cultural method.

(1) THE MICROSCOPICAL EXAMINATION OF THE DIRECT SMEAR

When the dental surgeon has decided that clinically the root canals are ready for filling, and not before, is the time to carry out the technique now to be explained. It is obviously waste of time to carry out a special bacteriological technique if the canals are obviously clinically unfit for filling.

This point having been satisfied, the root canal dressing, sealed in at least 24 hours previously, is removed on a sterile barbed "broach," and a thin, even smear made with it on a clean glass slide. The dressing will contain the exudate which has drained into it from the canal and periapical space. Should the dressing be quite dry, then it is almost impossible to obtain a satisfactory smear, and the cultural method to be explaimed later must be adopted.

The smear on the glass slide is allowed to dry in the air, fixed by passage a few times through a Bunsen flame, and then stained by a simple stain such as carbolic methylene blue for about a half to one minute. The smear is then examined under the 1/12 in. oil immersion lens of the microscope. If the exudate contains any bacteria of any type, then there is definite evidence that the canal is not sterile and that further treatment must be undertaken. Of course, the bacteria may be dead, but the assumption is that if they are present in the direct smear, cultures would prove they are living.

If the smear shows only a few "pus cells," but no bacteria, the evidence *qua* infection is less satisfactory, but can generally be taken to indicate that the canal is not yet completely sterile, though occasionally a purulent exudate is not incompatible with sterility. If there is doubt expressed, the cultural method will decide the question. Should the exudate contain neither bacteria nor "pus cells," then it is in all probability sterile, and the canal may be permanently filled, but in most cases it is advisable to put it to the test by the cultural method.

(2) THE CULTURAL EXAMINATION OF ROOT CANALS

It is obvious that if a disinfectant of sufficient potency has been employed in the sterilisation of the canal, then a dressing steeped in this antiseptic may be so strongly impregnated as to inhibit the growth of bacteria in the culture medium, and give rise to the assumption that the micro-organisms are actually dead. It is therefore necessary to bear in mind that the amount of disinfectant in the dressing, when mixed with a fluid culture medium such as nutrient broth, shall not render the medium so antiseptic as to render growth abortive. This may happen when the antiseptic is present in the medium in any concentration about its inhibition co-efficient. As a general rule, it may be taken for granted that a dressing steeped in any antiseptic may be put into a tube containing 10 c.c. of nutrient broth without fear that any bacteria present will fail to grow.

Two practical methods of proving the sterility of the canal by cultural method are open to the dental surgeon.

Method 1—

This consists in removing with sterile instruments the temporary filling and then sterilising the cavity with absolute alcohol and hot air. Remove the root canal dressing on a sterile barbed "broach," and with a pair of sterile scissors cut off the apical portion of the dressing and drop

it into a tube of sterile nutrient broth (not less than 10 c.c.). Incubate this tube aerobically at 37° C. for 72 hours, and if there is no growth in this time the canal may be considered sterile and filled permanently. It is sometimes a little difficult to decide if there is any growth in the broth tube, and to simplify matters, subcultures on to blood-agar slopes can be made from the broth after 48 hours' incubation. A 24 hours' subculture will prove definitely if growth is present, as the colonies of bacteria will show upon the solid medium employed.

If a further more delicate test is required, then after removal of the dressing, as already described, carefully dry the root canal with sterile paper "points," and finally seal in a "point" and leave it there for 48 hours. At the end of this time carefully remove the "point" with all aseptic precautions, cut off the apical half and drop it into a tube of nutrient broth (not less than 10 c.c.) and incubate for 72 hours at 37° C., as already indicated. If there is no growth in this time, then the canal and peri-apical space may be considered sterile, as any secretion from this space should have oozed down through the apical foramina and been absorbed by the sterile paper "point."

Method 2—

After removal of the root canal dressing, the canal is carefully dried out with absolute alcohol, introduced on a sterile paper point and hot air from the "chip" syringe. A little sterile broth or normal saline is then introduced into the canal on a sterile "broach" and sealed in aseptically for 24 to 48 hours. At the end of this time the canal is opened and a thin platinum needle or sterile "broach" is introduced up the canal and so inoculated. The inoculated needle or "broach" is then introduced into a tube of broth (not less than 10 c.c.) and then withdrawn. The broth tube is incubated aerobically for 72 hours at 37° C., and if there is no growth at the end of this time the canal may be considered sterile.

An alternative to this method is to introduce a sterile paper point to soak up the secretion in the canal instead of using the platinum needle or broach. If this method is adopted the apical portion of the point is cut off and dropped into the tube of broth. This method was, I believe, first suggested by La Roche in 1918.

A third rather more rough method, which can also be employed, is the following:—

After removal of the root canal dressing and thorough drying of the canal, a little sterile broth or normal saline is introduced up the canal on a sterile platinum needle or plain "broach," and this is worked round the canal for a minute or so and is then withdrawn and a tube of broth inoculated. The drawback to this method is that there is little or no chance of any secretion from the peri-apical space drawing into the canal in the short space of time employed. and so a negative result does not indicate sterility of the peri-apical space.

Whichever method explained is adopted, a negative cultural result indicates that at the time the cultures were made the canals were sterile and that they can be permanently filled. What such an investigation fails to prove is how long such sterile conditions remain, and it is unfortunately possible some time later to remove the permanent root canal filling and find on culture that the canals have not remained sterile. This is probably due to the fact that it is almost impossible to permanently sterilise the peri-apical tissues.

There is no doubt, however, that by carrying out the investigations discussed in this lecture the dental surgeon has done all that is possible to guard against the danger of permanently filling a bacterial breeding area. The antique, unscientific method of merely smelling the root canal dressing to see if it is "sweet" is indefensible as a criterion of sterility and, like the sending of a tooth loose in a test-tube for bacteriological examination, should be condemned to oblivion as something which should *not* be done.

To conclude this lecture I would state that my recent work on the bacteriology of apical infection has done a good deal to convince me that the safest thing to do with a root canal when it has been proved sterile is not to fill it at all, but this, gentlemen, is another story. Whether we do or do not fill our canals, we all ought to try to prove their sterility before we fill the tooth.

Sport.

Rugby.

Guy's *v.* London Scottish.

AT the Athletic Ground, Richmond, on Saturday, December 22nd, the London Scottish were successful by 1 goal and 2 tries (11 points) to 1 goal (5 points).

The conditions were all against good play as a steady drizzle continued throughout the afternoon, and the slippery ball was difficult to handle.

Owing to the calls of holidays and the Anglo-Scottish Trial, both sides were short of several of their leading players. In addition, Guy's were further handicapped by losing the services of

their scrum half, W. D. G. Jones, in the first few minutes of the game. In spite of a very bad cold he turned out to complete the team, and it was bad luck that caused him to retire with a damaged shoulder and concussion after he had endeavoured to check a forward rush.

A. R. Clarke was taken out of the pack to work the scrum, but although beaten for possession fairly often in the first half, the forwards played a wonderful game after the interval and were far superior to the Scottish, who had a full complement and heavy pack at that. The forwards improve every week, and it will not be long before we find them one of the best packs in town; they all worked their hardest and ably supported the leadership of J. R. F. Popplewell.

Hogbin, Clarke and Lashmore all did well in the loose, whilst the other forwards ran them very closely and came out of the scrums with great credit. Ryan was the pick of the backs, and was prominent on several occasions with individual efforts.

S. D. McClean and S. R. Peatfield appeared in the XV for the first time this season, and both did very well. The former, especially in the second half, kicked with excellent judgment and although on the light side should do better when he has developed.

In the opening few minutes of the game, Ryan cleverly intercepted a pass and found touch with a well directed kick, but Guy's were driven back and McClean was compelled to touch down. From the kick-off Ross secured a mark, but Hutchinson cleared. Soon after Guy's were penalised and McCullough tried to place a goal, but failed. Hogbin was then conspicuous with an individual effort, but the Scottish, through a strong forward burst, again pressed on our line. The situation looked dangerous for Guy's when McClean was dragged over our line in possession. From a scrum in our 25 the ball came to Waldock, who made a poor attempt to drop a goal from an easy position in front of our posts. Eventually, the Scottish met with success when Findlay crossed our line in the corner after some excellent passing between their threes. McCullough failed with a difficult kick. Within five minutes the home side added to their lead, again through Findlay, who raced through our defence to register a try in a good position, but McCullough missed an easy opportunity to add the extra goal points. Half-time arrived with the home side leading by 6 points to 0.

Early in the second half the Scottish again scored after some snappy passing between Page, Flett and Findlay. The former went over near the posts, and this time McCullough converted.

Stung by this reverse the Hospital put far more life into the game, and for a time simply overwhelmed the Scottish. For several minutes Guy's pressed on the goal line and on one or two occasions had hard luck in not crossing. However, they received their reward when Ryan broke through with a fine burst and punted forward.

Peatfield followed up and, profiting by the full back fumbling, secured the touch down. Hogbin converted with a magnificent kick from a difficult angle—a very fine effort considering the conditions. Continuing the pressure, Guy's again came within an ace of scoring when our threes handled very well, but a forward pass spoilt the movement in the Scottish 25. The home forwards then came away with a rush, but McClean saved and, later, gave to Ryan, who initiated another good round of passing between the threes, which only ended when Ive was thrown into touch near the corner flag. From the line out, and following some loose play, Ryan tried to drop a goal, but the ball proved too slippery for any accurate kicking. No further score resulted, and so Guy's lost a plucky game as stated above.

Guy's Team—S. D. McClean; O. Ive, S. R. Peatfield, J. C. Hutchinson, T. G. Robinson; D. F. Ryan, W. D. G. Jones; J. R. F. Popplewell (capt.), C. D. Malone, R. A. P. Hogbin, G. F. Lashmore, A. R. Clarke, K. P. Smith, J. S. Batchelor, L. Brown.

Pass List.

UNIVERSITY OF LONDON.

THIRD (M.B., B.S.) EXAMINATION FOR MEDICAL DEGREES

November, 1928

PART I

*†Rake, G. W.	*Abrahams, S. I.
*de Navasquez, S. J.	*Ellis, D.
*Mackenzie, M.	*Miller, W. H.
*Trick, S. R.	*Wickremesinghe, P. C.
Davies, K. J. H.	Harley, H. N. W.
Mackenzie, J. P.	Mistry, M. L.

PART II

*†Rake, G. W.	*Abrahams, G. I.
*Ellis, D.	*Jones, R. M.
*Kanaar, D. F.	*Miller, W. H.
Picken, C. B.	Post, H. W. A.

* Has now completed the Examination

† Distinguished in Medicine and Surgery

Papers by Guy's Men.

E. G. Slesinger, M.B., B.S. Ununited Fractures, *Clin. Jour.*, 1928, lvii, 565.

John A. Ryle, F.R.C.P. An Address on Chronic Spasmodic Affections of the Colon and the Diseases which they Simulate, *Lancet*, 1928, ii, 1115.

C. Worster-Drought, M.D., and others. Cysticercosis of the Brain, *Brit. Med. Jour.*, 1928, ii, 980.

EDS. { O. P. / E. T. C.